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COMPOSITIONS BY BOUCHET (X.).

27-29 Tothill Street, Westminster, S.W.1.

Cornice of the Palazzo Piccolomini, Rome.

This magnificent cornice from one of the famous fifteenth-century Italian Renaissance palaces is an object-lesson in the design of an important elevational feature which, in modern buildings, is frequently mis-managed. The consoles are correct in form and projection, and the various mouldings, though bold, are proportionately related to the whole façade.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, January 7, 1920 Volume LI. No. 1305

Unity and Organisation

AS to which of the two entities should come first, Unity or Registration—there can be no question. Unity is a condition precedent to Registration, and will be as well its aftermath. Parliament will not, cannot, make a Registration Act unless the Profession makes a united and therefore an irresistible demand for it. An Institute and a Society acting independently of each other in bringing forward separate Bills having the same object would present a spectacle even more lamentable than ludicrous, involving rivalry where an essential condition of success is not merely unanimity, but absolute unity. And the unity must be permanent. A casual alliance for this specific purpose would be difficult if not impossible, and certainly unsuccessful. The two organisations could not be brought to agree on even the preamble of a Bill drafted on such conditions. Registration, therefore, will be first the effect of unity, and afterwards its cause. In Shelleyan phrase, it will "look before and after." Without unchallengeable unity no Registration Bill has the slightest chance of success, and without Registration the hope for a ninety-five-per-cent. solidarity must always remain sterile.

By what means pre-Registration unity is to be secured is therefore a vital question; but whether and why Registration is desirable, and whether and why it is worth all the trouble and expense of obtaining it, are questions that, while they are of fundamental importance, are now *res judicata*, and therefore seldom discussed. Stated as briefly as may be, the chief object of Registration is to secure recognition and standing for the competent architect by separating him from persons whose claim to competency is unconfirmed officially—that is, by distinguishing the qualified practitioner from the quack. This may or may not seem a small matter in itself, but, at any rate, it has far-reaching implications, some of them substantial; others being not less valuable because it is possible for practical-minded persons to regard them as "mere matters of sentiment." Status, which is very dear to the heart of the practising architect, and is largely a "matter of sentiment," is secured to the registered practitioner, and the distinction is not altogether devoid of material value also, which, however, may well be esteemed as the least considerable part of it. Although it has a duplex action, elevating the practitioner who is on the rosta, and depressing him who is not, its chief value is in educating the general public, who will generally prefer to employ the "State-recognised" man rather than an outsider, and will in this way begin to understand something of the value of technical education and professional training as represented by the possession of a diploma. This changed attitude of the public will inevitably react on those practitioners who have been too indolent to qualify systematically for proper credentials. They will perceive that systematic training has a combined sentimental and commercial value, and that the "hall-mark" conferred for it is worth the winning. It is on these two issues that Registration will score most heavily—by its tonic effect on public opinion and on the "slackers" who are hovering on the borders of the profession, who will realise that they must "get on or get out". True, they cannot be legally and absolutely excluded from the Profession. No such drastic proposal would stand the remotest chance of acceptance in Parliament. But the unregistered architect would be fatally side-tracked.

Registration, then, would secure unity of the Profession by rounding up the laggards, and virtually placing the unfit beyond the pale. But the unity which must precede Registration is the matter to which the Profession must first address itself with all the energy and ability it can command, and, above all, with all the fraternal goodwill of which it is capable, if the year of grace upon which we have just entered is to see it an accomplished fact. But while it should be one of the first resolutions of the New Year to work whole-heartedly towards this consummation, and to set about the work without delay, it must be remembered that the success or failure of the subsequent operations depends on the nature, method, and extent of the preliminary work; and of such work there is so much to be done that to hurry it unduly would be fatal.

It is in great part a work of permeation. To secure unity will be no light task. There are divergencies of view to adjust, antagonistic elements to reconcile, mutual repulsions to be somehow demagnetised, and converted to mutual attractiveness. These processes take time, and cannot be hurried with impunity. There exists no magician's wand that, waved over the Institute and the Society, will bring those bodies into instant agreement; and the task of securing unanimity within those bodies severally and respectively is scarcely less difficult.

But difficulties exist to be overcome, and the obstructions that bar the path to Registration and amalgamation are by no means insuperable. What is the clue to the maze? Propagandist work—one might almost say missionary work, clear and persistent preaching of the gospel of unity, a going out into the highways and byways to "compel them to come in"—the compulsion being, of course, wholly reasonable. Wholesale conversions will follow hard upon a well-conceived and vigorously prosecuted campaign, conducted partly through the medium of the professional Press, and partly by means of the living voice. Since to be indefinite is to be futile, let us here be very explicit. By "the living voice" we mean more than conversations in committee and debates at special meetings. We mean nothing more nor less than the appointment of a picked man to devote himself heart and soul to the interests of the Profession. He must be an exceptional man, uncommonly sagacious, and of magnetic personality. His chief mission would be to pull the Profession together, to find out its weaknesses and suggest the remedy for them, to indicate also wherein resides its latent energy, and to show how best it can be developed. He would traverse the country, interviewing, talking, listening, explaining and having matters explained to him, showing how existing organisations could be improved, and arranging for the formation of new societies where none yet exist. By doing all that knowledge, sagacity, and geniality could suggest, he

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would in six months remove more misunderstanding, and do more to promote fraternal unity than could come to pass without him in as many years; and he would double or treble the membership of the organisation he represented.

This is not merely an airy theoretical suggestion. The thing has been done in many directions, and the results have always proved the immense value of a forceful personality. Which of the two great organisations will first have the courage and the wisdom to employ a strong organiser will in a very short time be in a dominant position, and the absorption of the other will be the inevitable consequence. If both adopt the idea simultaneously, that will be yet another instance of the deplorable overlapping and waste of effort of which we all desire to be rid as quickly as possible, the main difficulty being to find a way out of the maze of conflicting interests, opinions, and prejudices. Sooner or later, amalgamation is certain to be effected, and as long as the inevitable consummation is postponed, deplorable waste of energy goes on, and Registration is deferred. On amalgamation, however, we print this week a striking communication that goes so thoroughly into most of the pros and cons that, for the moment, there is no need to add anything on that head except our strong hope that the year 1920 will in this and in most other respects make the unity of the Profession something more than a mere aspiration.

Notes and Comments

Reorganisation of Scottish Architectural Societies

It was announced last Friday that the reorganisation of architectural societies had been completed. Formerly each of the chief towns had its own independent organisation, but these various societies have now united to form the Institute of Scottish Architects, with an appropriate constitution and by-laws. Glasgow, Edinburgh, Dundee, Aberdeen, and Inverness are to form each a "chapter"—a rather happy term that was adopted some years ago when American societies were similarly linked up. Whether or not the term is derived from the expression "Dean and Chapter," it is fortunate in its adaptation to acts of union similar to that which the Scottish architects have accomplished, and the R.I.B.A., to whom the Scottish Association is now affiliated, will no doubt consider very carefully whether they cannot find an equally appropriate use for the word. The inoffensiveness of the expression, its comparative and attractive novelty in this application, its highly respectable origin, and its just-sufficient warrant in precedent, may make it an acceptable medium for that unity of the Profession which is to be, we all trust, a dominant note of the New Year. This is exactly the sort of thing that, where a feather's weight would sway a delicate balance, might sway the issue. Moreover, the word hints symbolically at union; for, to the modern mind, a chapter suggests a book in which the several chapters, though they may not be in complete agreement one with another, are firmly bound together. When the English reorganisation comes, as come it must, the word "chapter" shall do good service. But whether or not Scottish and American precedent is followed in this solitary but significant detail, the effort for unity which has led to its adoption will powerfully assist the similar movement in England. And after the various national organisations have been marshalled into due order, they will find but little difficulty in forming an International League of Architecture, which would be an appropriate chapter in the League of Nations.

The Secret of Greek Art

Mr. Jay Hambidge's lectures on his theory of symmetry and the principles of Greek design have secured a much larger audience than that to which they were delivered at meetings of the Hellenic Society held at Burlington House. They have attracted much attention in the newspapers, one result of this publicity being that Mr. Hambidge has thought necessary to repudiate the claim implied in the newspaper caption, "The Secret of Greek Art Revealed." He has advanced no such claim. Mr. Hambidge is an American scholar who, having, during many years of patient study elaborated a theory of art, and having during two years expounded it to the Universities of Yale and Harvard, and unfolded it to classes of artists and designers in New York City, and Boston, has now brought it to Europe, where it seems to be likely to suffer more from the over-zealous convert than from the sceptical opponent. To the principle of art he believes himself to have discovered Mr. Hambidge gives the name Dynamic Symmetry, contrasting it with the accepted theory, which he calls Static Symmetry. To explain this theory in a few sentences is impossible, but some idea of it is conveyed in the statements that Dynamic Symmetry is claimed as the fundamental principle underlying not only Egyptian and Greek art, but also the natural structure of the human figure, and of the growing plant; that instead of the linear relations which mark the static system—namely that, as Vitruvius would have it, taking the human head as a standard, all the other proportions of the human body are relative to it—Mr. Hambidge would substitute two rectangles, each of which has its end to its length in the relation of one to the square root of five.

The Root-five Rectangle and Another

For the sake of brevity Mr. Hambidge speaks of this mode of proportioning as "the root-five rectangle" system. He finds that the interrelation of parts in the Parthenon are governed by this principle. Further, Mr. Hambidge introduces us to "the rectangle of the whirling squares," the end of which "bears to its length the ratio of the longer part of a line divided in extreme and mean ratio to the whole line so divided—that is to say, the end of the rectangle is to its length as 1 is to 1618. Critics were swift to point out that although these proportions can be found in the Parthenon, it does not follow that they were the result of calculation or exact measurement—they are more likely to be the result of an intuitive sense of proportion. That Mr. Hambidge does not find his rectangles outside Egyptian and Greek art does not prove that these were geometers and the others were not. It shows nothing more explicit than that the sense of proportion varies in different races; the coincidence between the Egyptians and the Greeks being a result of intimacy, and of the quickness of the Greeks to perceive and imitate what was beautiful. Ascertainment beyond doubt that the Greeks secured their beautiful proportions in architecture and sculpture with rule and compass rather than through the innate art sense with which they are commonly credited would come upon us as a rude shock; and if Mr. Hambidge succeeds in proving his theories, he may expect to receive in full measure the same kind of reward that has been lavished on Professor Goodyear's theories with respect to entasis and similar devices—namely, an avalanche of ridicule and abuse. So far from joining in such persecution, we honour both gentlemen for their patience and ingenuity, however strongly we may disagree with their conclusions. For we must confess our belief that the secret of Greek art is more subtle and elusive than to yield to the geometer's cunning. To set a trap to catch a sunbeam would be a less hopeless endeavour.

"The Perfect Citizen"

In a letter to "The Times" of December 29, Mr. Halsey Ricardo urges the importance of promoting civic action and the civic pride which is an incentive to action. He asks, "Why is there no voice in the Press discussing architecture as a developing structural art, mainly concerned with the building and improvement of cities, and the provision of the structures needed in civilisation?" The answer is, Mr. Ricardo supposes, that there is no public demand for such discussions, "the citizen having yet to learn the full tale of his duties," and the contention is that the lay Press should help to educate him to a sense of his duties. Universities, schools, and the pulpit are also exhorted to take their share in producing "the compleat citizen," by constantly reminding him of his duties and privileges, and thereby awakening in him larger conceptions and nobler ideals, but the suggestion that most appeals to us is that referring to the lay Press. To us it has always been a source of regret and astonishment that, with a very few honourable exceptions, the lay Press seems to regard architecture as a totally negligible subject. This neglect we believe to be a great mistake from every point of view. Taking even the lowest conception of the functions of a newspaper—that its aim must be to amuse its readers, and never to instruct them, we are confident that the subject of architecture, judiciously treated, would be infinitely more interesting to the average reader than much of the stuff that, being supposed to meet the general demand for light recreative reading, appears ad nauseum in the newspapers. Mr. Halsey Ricardo's letter therefore finds us in responsive vein, and, as an earnest of our sympathy, we are resolved upon extending our free list for the benefit of the lay Press. This Journal is already sent regularly every week to a large number of periodicals in London, in the provinces, and abroad; but, as a practical effort in furtherance of the appeal in Mr. Ricardo's admirable letter, we invite our readers to send us names of periodicals in which they are interested, the editors of which would be likely to welcome the guidance of a well-informed architectural Journal.

Memorials in Churches

Mr. Halsey Ricardo's appeal that the pulpit, no less than the periodical, shall help to foster harmoniously developed citizenship by less severe neglect of the civic arts, particularly architecture, has apparently stirred the Bishop of Chelmsford to immediate compliance. If, however, the bishop did not see Mr. Ricardo's letter—and many hard-worked bishops have not time to do more than skim the newspapers—but spoke independently of it, so much the better—his testimony is the more valuable. He complains that incumbents and churchwardens, "with absolutely no knowledge of architecture, put up unsuitable war memorials in churches." Going about Essex he "found that people had over and over again spoilt the architecture of a church, taking away something it was impossible to replace, and putting up in its stead something that was not fitting." Coming from a bishop, this protest comes with peculiar force, and we trust that, seeing it through the agency of the Press, clergymen and churchwardens far beyond the confines of Essex will give heed to it. For the bishop has by no means overstated the case.

The Perils of Environment

In times of peace our churches are badly disfigured by unsuitable memorials, conceived, executed, and set up in guileless innocence of any necessity to consult any architect at any stage of the proceedings. What, then, could be expected in the flood-tide of war-memorials? Even a bishop is bound to take notice, sooner or later, of atrocities for which there is no excuse but the blindness of an emotional occasion. It is not always—indeed, it is not often—the memorial itself that is at fault. A perfect gem of art, incongruously set, will thereby lose its own charm, and disfigure what it was intended to adorn; and there are a dozen ways in which it can be in conflict with its environment. There is really no need to make the hideous mistakes of which the Bishop of Chelmsford complains. In every case the advice of a competent architect, or of the Royal Academy Committee, should be sought, to secure avoidance of the two-fold ill-effect of misusing the memorial, and disfiguring the church.

The Labour-saving House Again

It is the peculiar advantage of a newspaper house-designing competition that the design must play up to the specific purpose of the competition, and is not controlled by the fads, fancies, and caprices of a private owner, who is possibly careless of every principle but that of pleasing himself or herself, or who, more simply still, is solely governed by the desire that the planning shall be exactly like that in which some fortunate friend is infectiously proud. A case in point is the "Daily Mail" labour-saving house competition, the awards in which were announced last week. Here the competitors had for their main obligation not the pleasing of private whims, nor even the saving of expense in building, but the production of plans devised economically in the sense that, while the immediate cost might seem rather excessive, a substantial return on the outlay would be assured in comfort and convenience, if not always in hard cash; the cash consideration obviously coming in, however, by the superior house having the superior letting and selling value.

South London Development

Slowly but surely the Surrey side of the Thames is being redeemed from squalor. A hint at further developments was conveyed by the chairman of the Higher Education Sub-Committee of the London Council last Thursday, in his reply to a deputation from the Technical Council of the Printing and Kindred Trades, who asked for a building on a central site comprising at least 50,000 ft. of floor-space, as a school for technical education for the printing trades. The demand, in itself significant of the trend of the times, and as an indication of a class of building for which there is a necessity rivalling that for dwellings, derives yet higher importance from the tenour of the official reply to it. The chairman, assuring the deputation that his committee were entirely in agreement with its aspiration for a printing-trades school, but were confronted with serious financial difficulties, added that the problem would be considerably simplified if there were agreement to the erection of a central school on the south side of the river.

New Volume of "The Architectural Review"

The first number of the new volume of "The Architectural Review" is, as usual, rich in architectural interest, and, in addition has opened an important section dealing with furniture and decoration. This, like the rest of the magazine, is splendidly illustrated, the examples shown being chosen to accompany a masterly sketch of the origin and progress of the beautification of interiors. "The Charm of a Country Town" is a finely illustrated account of the architectural features of Spalding, Lincolnshire; Mr. Godfrey has a copiously illustrated article on Modern Memorials; "Current Architecture" includes a series of views of "Eyford Park" (Mr. Guy Dawber, F.R.I.B.A., architect); and Mr. Paul Waterhouse contributes a masterly appreciation of W. Walcot's collected drawings.

Architectural Causerie

WHAT happened, or what might have happened, to London after the Great Fire is a familiar enough theme for an essay; but Mr. Sydney Perks, in his paper at the R.I.B.A., treated it with unusual force and freshness. A well-worn subject was invested with new interest when, after referring, as the custom is, to the difficulties and the opposition encountered by Sir Christopher Wren, and by others who were of Wren's way of thinking, Mr. Perks showed that many features of the period of reconstruction have been since destroyed, often without due regard to taste or expediency. The theme fascinates. Let me develop it a little.

* * * *

Of the works that came into being in the time of Charles the First the number is relatively few. Of those dating from the years of the Restoration and the days of Queen Anne the number is naturally larger; while the wealth of the tradition evolved during the sway of the Georges retains its original impress, and forms by no means the least pleasing background to the conventional scenery of to-day. For more than two hundred years alterations and improvements have worked a change upon the original school of thought. First the sashed windows with heavy bars gave place to others of more slender character. Then it became the fashion to plaster and disguise the brickwork of an earlier age. Wooden cornices replete with shaped modillion, and sometimes enriched with carved acanthus, next suffered the indignity of clearance; but the worst iconoclast had not the courage to attack the enriched doorway; hence it is that London has much treasure after this kind.

* * * *

As London developed within itself, irrespective of the growth of the suburbs, the tide of fashion flowed steadily to the West End. Many fine old houses, formerly the town mansions of statesmen and merchant princes, were consequently converted into offices, and in some instances the basement storeys became shops. Such changes as these were inevitable; and if Tallis is read aright we have no cause of quarrel with the taste in shop design at the period of these conversions. The bad time came with the insane use of plate glass and the evil practice of inserting, instead of applying—architects will appreciate this distinction—a shop window to the original background. With the development of the modern shop front the regard for goodly carving declined.

* * * *

During the régime of the Tudors, every Englishman of sense valued the productions of the carver's art. Even the skill of Torregiano did not abash local talent, and many years elapsed before native craftsmen busied themselves with foreign notions. We are told that at the time of Henry the Eighth's quarrel with the Pope carving in England was applied to almost every useful article. The men called in to carve the poop of the good ship Great Harry had probably served their apprenticeship embellishing spinning-wheels, the hilts of daggers, and articles of furniture. From the time of Elizabeth to the end of the reign of Scotch James no opportunity to spend money on ornament was neglected. It is possible that the elaborate ornament on Sir Paul Pindar's house was the work of a carver skilled in ship work. Consider also the familiar enrichments of Sizergh Castle, the Job room at Bradninch Manor, and the interiors at Knole Park, in Kent, Hatfield House, and of Burghley by Stamford. It is very evident that in the height of Jacobean extravagance everything of wood that could be enriched was carved. The pillory and the stocks were carved, and so were the ducking stools! New ideas, however, were about to be imported, for Inigo Jones and Nicholas Stowe, great travellers both, were bent on reform.

How Grinling Gibbons obtained his recognition as an artist is best described by John Evelyn: "18th January, 1671.—This day I first acquainted His Majesty with that incomparable young man Gibbon, whom I had lately met within an obscure place by mere accident, as I was walking near a poor solitary thatched house, in a field in our parish, near Sayes Court. I found him shut in, but, looking in at the window I perceived him carving that large cartoon, or crucifix, of Tintoretto, a copy of which I had myself brought from Venice, where the original painting remains. I asked if I might enter. He opened the door civilly to me, and I saw him about such a work as for the curiosity of handling, drawing, and studious exactness I never had before seen in all my travels. I questioned him why he worked in such an obscure and lonesome place; he told me it was that he might apply himself to his profession without interruption, and wondered not a little how I found him out. I asked if he was unwilling to be made known to some great man, for that I believed it might turn to his profit; he answered, he was yet but a beginner, but would not be sorry to sell off that piece. On demanding the price he said £100. In good earnest the very frame was worth the money, there being nothing in nature so tender and delicate as the flowers and festoons about it, and yet the work was very strong; in the piece was more than one hundred figures of men, etc. I found he was likewise musical, and very civil, sober, and discreet in his discourse. There was also an old woman in the house, so, desiring leave to visit him sometimes, I went away." Within a month Evelyn had acquainted the King with his discovery, and had mentioned the artist to Dr. Christopher Wren and Mr. Pepys, Clerk of the Acts, "two extraordinary, ingenious, and knowing persons."

* * * *

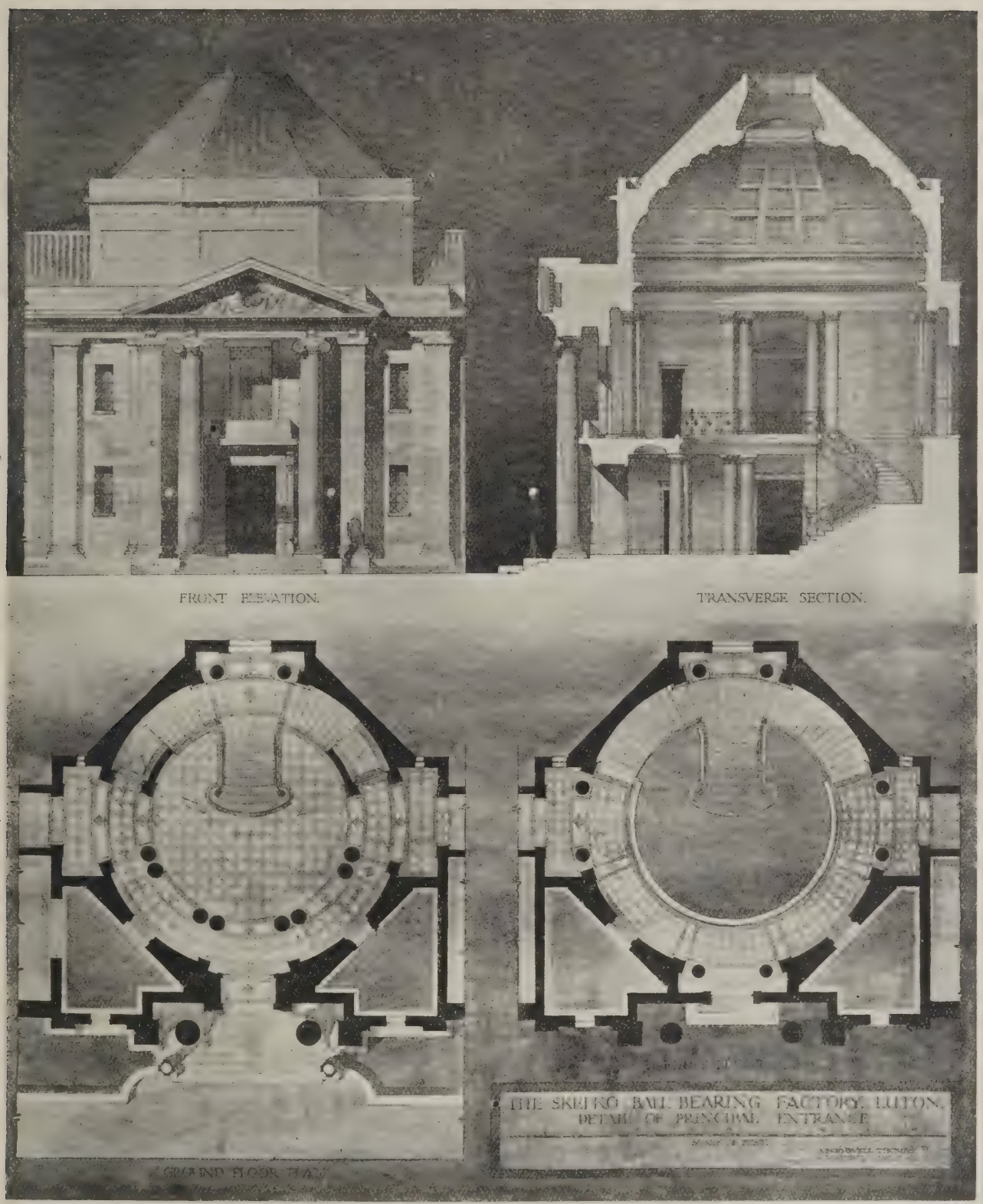
How elaborately carved are the door-heads that are typical of the reign of Queen Anne, such as those in John Street, in Bedford Row, and in the canopy pents at Queen Anne's Gate, Westminster. From the year 1670, when the reorganisation of the Navy was undertaken, ships' carving was thought to represent the best work of its class. Early in the eighteenth century elaborate carving for ships fell out of favour, and consequently a number of ships' carvers were set free to work on buildings. At the beginning of George the Third's reign the number of ships' carvers near London totalled three hundred. Seventy years later not more than fourteen remained, including the master carvers: H. White, of King's Stairs, Rotherhithe; Greyfoot; and Overton and Pageant, both of Rotherhithe.

* * * *

In the past not only was it customary to employ talented artists to enrich prominent features of buildings; such men were also called upon to design carriages and sedan chairs. Queen Anne possessed a State carriage richly carved, although some critics opined that the ornaments were too heavy. The panels of this coach were painted by Sir James Thornhill. The first and second of the Georges both enjoyed the restful ease of this leather-slung coach, as did George the Third when he first ascended the throne. It was not long, however, before a design for a new coach was prepared by Sir William Chambers, who recommended that the work of building the carriage should be supervised by Joseph Walton and Pugello. It is said that a great part of the carving of this coach was carried out by a little man named Nicholas Collett, dubbed a "Garrick of a carver." Cipriani painted the panels of the coach, and received £800 for his work, and no doubt stood in the crowd in the fog on November 15, 1762, to see the coach make its first appearance in public with the King inside.

AERO.

The Skefko Ball-bearing Factory, Luton: Detail of Principal Entrance.
Sir A. Brumwell Thomas, F.R.I.B.A., Architect.



Sir Brumwell Thomas in his Skefko Factory has established a new architectural standard in the design of industrial premises, proving that strictly utilitarian buildings may yet be architecturally attractive. The principal entrance, with its circular hall and symmetrical staircase, is well shown in the above drawing. The detail of the exterior is based upon that of the Erechtheum.

Unity and the Future

By "OBSERVER"

THE New Year is eminently a time not only for making new resolutions and scrapping old ones, but, further, for endeavouring to suggest new ideas which may lead to the adoption of some constructive policy for the settlement of certain questions affecting the future of architecture.

No attempt shall here be made to forecast what the long-delayed report of the R.I.B.A. Committee on the future of architecture will reveal, if and when it is published. It is safe to infer, however, that the problem can hardly have been the subject of prolonged inquiry without touching more or less deeply on the question of professional unity and the future relations of the R.I.B.A. and The Society of Architects.

The somewhat cryptic utterance of the R.I.B.A. Council shortly after the election of its President, Mr. John W. Simpson, that no effort would be spared to bring about unity in the profession, or words to that effect, seems to foreshadow a "certain liveliness" in the direction of a further effort towards unity by bringing these two bodies into closer relationship. Some people are even bold enough to see in the recent suspension of the R.I.B.A. "blackballing by-law" another indication that the decks are being cleared for action very shortly. All this is pure speculation, and what we have to do is to deal with the present situation as revealed by the existence of the two architectural bodies, each representative of a section of the profession differing somewhat in its lines of thought from the other on certain questions, such as Registration.

The first serious attempt at unity between these two bodies was made in 1911, when, after lengthy negotiations, a bargain was struck between the Councils of the R.I.B.A. and of the Society for the absorption of the Society into the R.I.B.A. conditionally on the Institute's giving a pledge that it would pursue and conduct a Registration Bill until it became an Act, the general principles of such Bill having previously been agreed between the parties. The general body of members of the Society honoured their Council's pledge, and were on the eve of ratifying it when the R.I.B.A. Council found that their charter would not admit of the bargain.

The next step was a proposal by the Institute's Council to obtain the necessary powers under their charter to enable them to carry the matter further; but the proposed line of action did not commend itself to the Society, and in all probability there would have been some contention over it had not the war broken out, and the general body of members of the Institute tied the hands of their Council by insisting that they should not consider contentious questions during the war. In the intervening years the Society has increased in membership and in influence, and has largely extended its activities in various directions. The two bodies are running on parallel lines with exactly the same general aims in view, and are overlapping each other in the methods adopted. Both are examining bodies and keen supporters of architectural education, each of them publishes a Journal and other literature, each is engaged in upholding the honour and well-being of architecture and architects, and each, by taking independent action in these and other matters, advertises the fact to the public that there are two architectural bodies, each fulfilling similar functions, and thereby spending a great deal of time, energy, and money in doing separately what might with greater advantage be done conjointly.

Whether it is best for the future of architecture and architects that there should continue to be two distinct architectural bodies, and, if not, whether they should be linked up or amalgamated, are questions on which professional opinion is still divided. There are those who hold strongly that the Society serves a more useful purpose as a separate entity, and that if the Institute swallows the Society the former will become gorged and relapse into a state of coma. Others favour a scheme of federation, which would preserve the autonomy of each body, as indicated in a proposal put forward by the Society for utilising the machinery of the Architects' War Committee for such a purpose; and it is interesting to note that the latest proposals for a solution of the Irish Home Rule question are on these lines, viz., to establish two legislatures in Ireland, with a Council as a connecting link. There are others within both institutions who are "whole-hoggers" for amalgamation, while a considerable number are in favour of having two separate bodies. In connection with this a suggestion has been made that the Institute should deal with the art of architecture and the Society with the professional or business side.

If the ideal to be aimed at is one powerful organisation, representative of and controlling the whole profession, and either possessing statutory powers or leading up to a Registration Act, it involves inevitably the amalgamation of the Institute and the Society. In such a case the Institute would benefit materially by a large increase in its membership, and therefore in revenue, and by being placed in a position to speak on behalf, at any rate, of the greater part of the profession; and before very long it would represent the whole, and be able to do public service on a vastly extended scale.

To the Society amalgamation means extinction and the close of a long and active career of usefulness, and that at a moment when its activities and influence are in the ascendant, and while the prospects of future success, both for itself as a body and for the accomplishment of its objects, are rich in promise. It may well be that the Society will hesitate to give up its independence unless it is absolutely assured that by doing so its objects will be attained more quickly and more fully than by any other means. Indeed, the Society would be betraying its trust if it acted otherwise.

As a matter of detail, one of the snags which would have materially held up the original proposal for amalgamation, if proceeded with, was the difficulty of allocating the members of a "single-class" Society to the various grades of membership within the Institute without offending the susceptibilities of one party and the expectations of the other, and this is a point which will require careful handling in any future amalgamation scheme.

If amalgamation is not the ideal, or if it cannot be attained at once, the next best thing might be a closer linking up of the governing bodies of the two institutions by joint committees and a joint Council on matters of general interest, so that the influence and weight of the two bodies as separate entities may be brought to bear conjointly on matters of general professional interest. Under such an arrangement much of the routine work, such as examinations, professional documents, etc., might very easily be standardised. Failing closer union at the moment, this might be a stepping-stone to some wider scheme of federation in the future.

Assuming that neither amalgamation nor federation is possible, what is going to happen? One thing is certain, The Society of Architects, now on the threshold of further developments and activities, will continue to attract more and more into its membership those architects, including, no doubt, members of the Institute, who like to be identified with an active and progressive professional body which lays itself out to protect their professional interests and to make the public more familiar with their functions and place in the scheme of National Service.

It is obviously not without some good reason that the

Society is receiving these accessions of strength and if the R.I.B.A. Council is in earnest in its endeavours to find some solution to the problem either through its charter or in some other way it will do well to profit by the experience of the past, and not only consult the Society in the early stages of any proposals, but also take steps if possible to restore confidence in the general body of its own members, so that any provisionally agreed scheme placed before them may not share the fate of the abortive negotiations of 1911.

The Public Appreciation of Architecture

THAT architecture is no more appreciated in the United States by the general public than it is in this country is apparent from an editorial article that appears in our Trans-Atlantic contemporary, "The Architectural Forum." At the last convention of the American Institute of Architects in April of last year the remark was made by a speaker that no larger or more important task awaited the efforts of the Institute than the matter of public education in the appreciation of the fine arts, and architecture in particular. The resolution that occasioned the remark recommended close co-operation of the Institute's Committee on Education with the Association of American Colleges, and a very interesting discussion centered about it. It was pointed out that American universities had one serious shortcoming from a cultural aspect in that they did not at any point recognise the fine arts, or that the existence and appreciation of the fine arts connotes the highest state of civilisation. As a natural consequence, in later years when their graduates take an influential part in affairs of public interest, they are able to bring to their duties no real conception or appreciation of the artist's work.

We are daily reminded, says our contemporary, of the existence of this barrier to the progress of architecture. There is instinctively an appeal to almost every human in an imposing and handsome building—he may stop to admire it, but very few have any appreciation of the fact that it required some artist to design it. The man is a hundred times more likely to visualise the work of the contractor who erected it, and mentally give him credit for a piece of work well done, than to think of the greater work of the designer. Why is this so? Because we can only appreciate those things about which we have some knowledge. The man in the street has seen the foundations put in place, he has watched the steel framework riveted together, he has observed the building take definite shape through the work of the stonemason. These things he knows; and knowing them, not from a technical standpoint, but only in a general sense, he appreciates them. On the other hand, he may not even number among his acquaintances an architect, to say nothing of having any familiarity with an architect's office where he might observe the talent and industry expended in the preparation of drawings for the buildings he sees all around him. Furthermore, he never will know the function of the architect or be able to appreciate the art of architecture until architects realise that they owe an important duty to their profession, and a bigger one to civilisation, in taking definite steps to bring to the public some knowledge of their art.

In the exercises attending the dedication of the memorial to John Merven Carrère, Mr. Joseph H. Freedlander stated that, with the exception of the monument to Richard M. Hunt in New York, this is the only memorial to an architect ever erected in the United States. Could more convincing evidence be asked of the lack of public appreciation of architecture and of the men who have brought it to the present high state of development in America? No other profession has made greater progress in the last half-century, nor is the work of any other more intimately under observation, yet appreciation of architecture is practically limited to its own followers.

But what a group of illustrious names does the architectural profession revere!—Richardson, Burnham, Hunt, McKim, Carrère, Day, and many others. What does the greatness of American cities not owe these men? Yet their names are known to but few outside the profession. Is not the work they have done in providing us with the inspiration to achieve better civic development, and more wholesome and beautiful surroundings for all citizens, of sufficient value to rank with the work of leaders in the fields of medicine, law, and the church? It is an indication of the lack of breadth in our cultural training that the work these men accomplished remains as a sealed book, and the memory of their names confined to their confrères when the world would be eager to share in giving them honour if their worth were known.

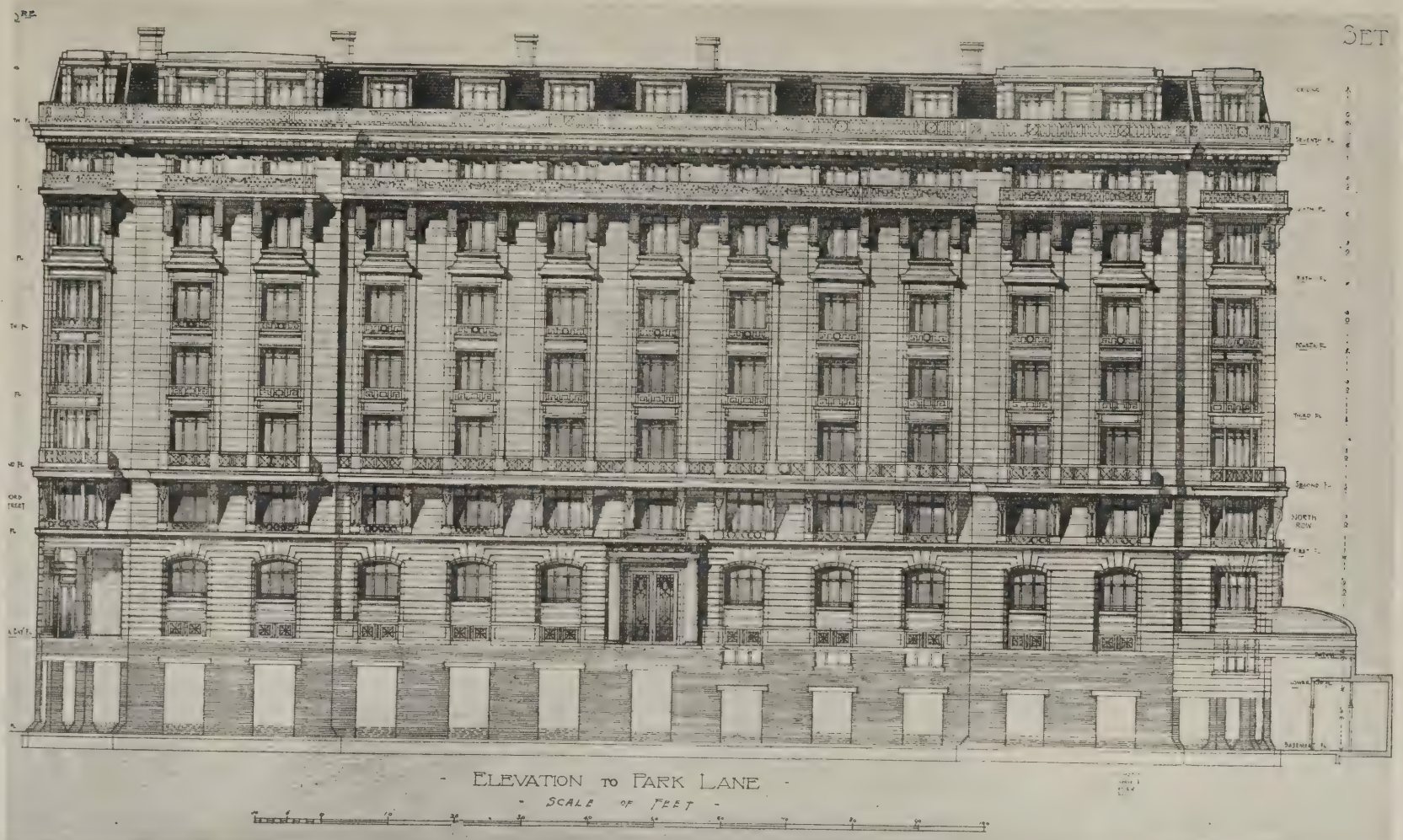
The whole effect of the true architect's work is influencing the public unconsciously to require better buildings and surroundings for their daily lives. The practice of architecture is one of the most constructive callings in the world, and there is in it elements that would strike a responsive chord in the public mind. The art of architecture, the high ideals that govern its practice, its essentialness to the full cultural development of a nation, must be made known to the public. It is, as the speaker at the convention remarked, the biggest task before the Institute. The people are entitled to share in the knowledge of architecture with the profession, and it is the unescapable duty of architects through the Institute, their representative body, to co-operate with all educational agencies to the end that a spirit of appreciation for the fine arts may be fostered, thereby assuring to future generations a greater opportunity to enjoy the things of the spirit, and to the leaders in the greatest of all arts a larger measure of public recognition than is represented by two monuments commemorating so important a public work in the U.S.A. as the architectural activities of over half a century.

From the foregoing article it will be seen that the position with regard to the public appreciation of architecture in the United States is very similar to that in our own country. Here, surely, is propaganda work for the R.I.B.A., for no other institution is better qualified to enlighten the public on the relationship of architecture to communal life.

Current Prices of Materials

In this issue (see pages 33 and 34) the first of a new volume, we revive and present in a new and improved form an old feature of the Journal—namely, Current Prices of Materials. In these days, when instability is the keynote of all prices, variations being of almost daily occurrence, it is a great advantage to the estimator to have conveniently at hand a reliable list of prices for quick costing, and it is to this end that our new table has been prepared. The prices are taken out by an expert, who is dealing with the pricing of huge contracts every day, and who, consequently, is in constant touch with the fluctuations of the market. The prices will be revised regularly week by week, and readers may be assured that the information given is the very latest available and, so far as it is humanly possible to make it, accurate. The value of the table is increased by the inclusion of the current labour rates, so that by consulting this one list it is possible to obtain a rough estimate of cost for a complete contract. The list does not pretend to be perfect in every particular, and we shall welcome any suggestions that readers may be able to offer for its improvement.

New Block of Residential Flats, 40, Park Lane, London. Frank T. Verity, F.R.I.B.A., Architect.



This building is at the north end of Park Lane, facing the Marble Arch. It contains twenty-eight sets of flats and includes, at the south end, a maisonnette on the upper and lower ground floors. A general dining-room is provided in the lower part of the building for the use of tenants, and on the Oxford Street frontage there are three shops. Plans were given in our last issue.

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The Labour-Saving House Competition

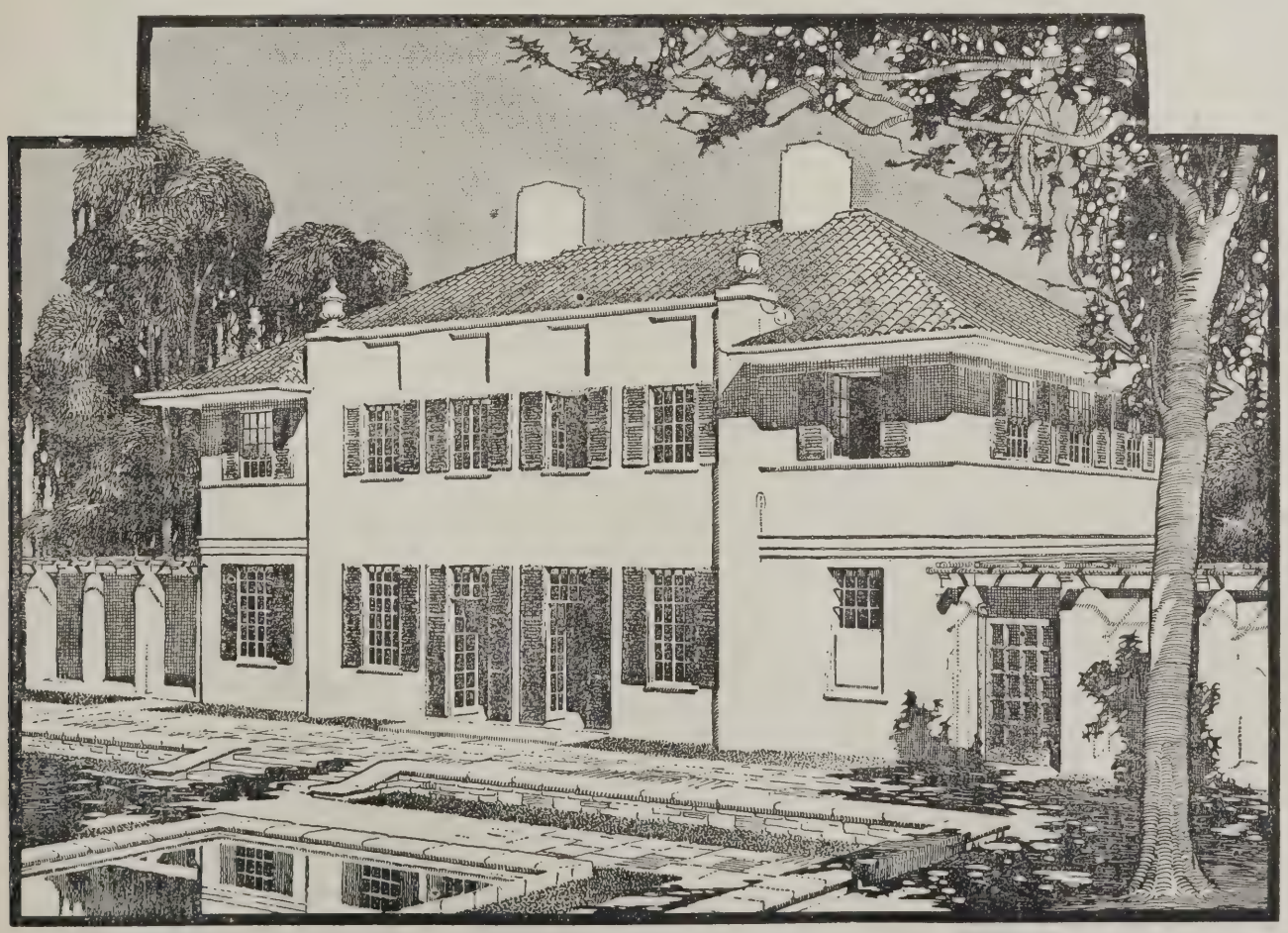
THE assessors have made the following awards in connection with the Ideal Labour-Saving Home Architects Competition, organised by the "Daily Mail": First prize, £250, Mr. C. J. Kay, L.R.I.B.A., Bank Chambers, Horsham; second prize, £100, Mr. G. Berkeley Wills, A.R.I.B.A., 7, Stone Buildings, Lincoln's Inn, W.C.; third prize, £50, Mr. E. W. Armstrong, c.o. Architectural Association, 35, Bedford Square, W.C. The object of the competition, the premiated designs of which are illustrated, was to obtain a house which, although it might cost more to build in the first instance, would be more economical to run than the average home designed without due regard to labour-saving. In the opinion of the assessors the house which secured the first prize can be run with one servant with occasional help. A house providing the same accommodation built in the conventional way would require two, three, or four servants, according to whether it was planned as a two-storey house, a three-storey house, or a basement and three-storey house.

In judging, the merits and demerits of each plan were weighed and balanced to discover how they responded on four general points which were the basis on which the assessors formed their final decisions. These points were: 1. Convenience of the plan itself from the labour-saving point of view. 2. The merit of individual labour-saving suggestions incorporated in the house. 3. The economy with which the idea was carried out. 4. The architectural appearance of the exterior. The first two items were very heavily weighted as against the second two, it being contended, first of all, that capital outlay which reduces cost of upkeep is true economy. The assessors were: Mr. R. W. James, M.I.M.E., A.M.I.C.E., London, chairman; Mrs. G. S. Guy, Balvaird, Cheam, Surrey; Miss Clementina Black, Barnes; Mr. Courtenay M. Crickmer, F.R.I.B.A., London.

The winner of the first prize has endeavoured to evolve a scheme which shall tend to reduce effort and labour without creating prejudice by making aggressively apparent the necessary drastic departures from ruling conventions. In this he has succeeded to the following extent, according to the assessors—there is no dusting of innumerable balusters; the back door does not have to be answered every time a tradesman calls to receive orders or to deliver goods; the cleaning of fireplaces is not necessary, nor do fuel and ashes have to be carried up and down stairs; the sweeping of carpets on stairs and passages is done away with. In view of the proportionately heavy cost of fitments and accessories he has kept down cost of actual building to a minimum. All angles are rounded, and mouldings practically eliminated. Surfaces of walls, floors, ceilings, doors, and windows can be readily and easily cleaned without damage to the decoration. Bright metal fittings are done away with, and heating, cooking, and washing appliances are enamelled. The floors are damp-proof, warm, silent, and restful to the feet. The windows are hung and built in steel frames in such a way that both sides may be cleaned from the inside.

In the kitchen the various appliances are so grouped that a minimum of labour is required for the reception and disposal of stores, the preparation and service of food, and washing and house-cleaning operations. The trades delivery hatch is provided with self-locking compartments to receive packages from the butcher's boy or the baker, and slate panels on the doors on which messages and instructions to tradesmen may be written. The whole of the kitchen equipment is fixed on brackets or stands on ball-bearing castors to facilitate the cleansing of floors. An electric range, also on castors, has adjustable legs so that it may be made higher or lower. The kitchen cabinet is entirely enclosed by folding doors, or a roller shutter, and is designed to accommodate articles and provisions most frequently required in the preparation of meals. The sliding table top usually seen is omitted, and a movable cooking table is suggested in its place.

The larder is fitted with removable glass shelves and a built-in food safe which is water-jacketed. Through this the whole of the cold water supply to the house circulates. In the store, which is fitted to take dry goods and preserved food, the shelves are adjustable and made of enamelled steel. The only coal used in the house is for one anthracite furnace, which heats the whole house and provides hot water. It is planned to put it in the back lobby, close to the coal store. The furnace may be used as a destructor for



FIRST PREMIATED DESIGN: GARDEN FRONT. C. J. KAY, Licentiate R.I.B.A., ARCHITECT.

all house refuse also. Radiators appear in recesses in all the rooms, and are hung on hinges in such a way that they may be swung out from the walls.

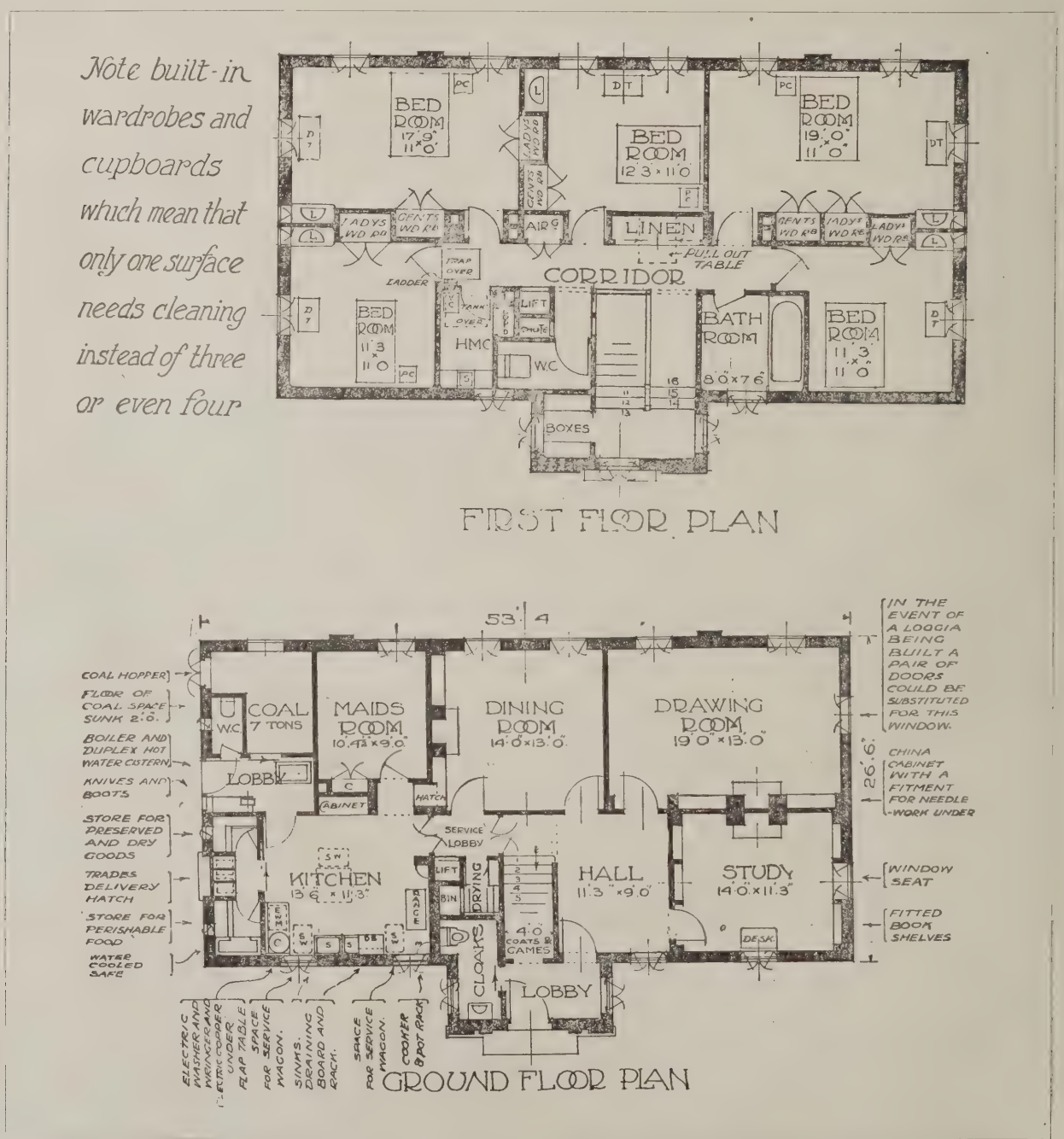
In the second premiated design the difficulty of cleaning behind the bath is obviated by projecting the bath into the centre of the room, the canopy and waste end being built into an angle. The walls of the bath-room are circular for about three feet up, and are tile lined with a mosaic or tile floor; above, the walls are of white glazed brick. If preferred the bath could be on wheels, with waste to an open channel. The taps would then be fixed into the wall. The balustrade is to be of solid concrete with a hard wood handrail at the top.

A combined hot plate service hatch, china cupboard hatch, and sideboard is an innovation in Mr. Wills's plan. Glass, crockery, and silver in general use are kept in the cupboard adjacent to the hot plate and extra glass, etc., in the adjoining cupboard, both being accessible from the kitchen and from the dining-room. This management obviates the necessity of carrying any articles of food from the kitchen to the dining-room or vice-versa. Special attention has been given by Mr. Wills to the relative positions of the cooking-range, sinks, plate rack, kitchen cabinet and servery, and also to the small annexe to the larder, which is so accessible from the kitchen, and which may be used for the unexpended portion of the day's food.

The chief object in the third design has been to provide a house which, if need be, can be managed with comfort by one person. Every room has been considered, first separately, then in conjunction with the other rooms. All the rooms are large and airy, and the rooms and living-rooms get the maximum amount of sunshine. The kitchen and offices have been arranged to coincide with the sequence of the daily routine of kitchen work. The gas stove is placed close to the scullery, taps being provided over an earthenware draining board adjacent.

In the preparation of meals, food to be cooked is taken from the larder to a combined marble slab cooking table, which contains flour and sugar bins and a spice cupboard. Here all the mixing is done. Next to the cooking-table, and in a direct line of light from the window, is a combined dresser, sink, and service hatch fitting. This arrangement allows all the fittings necessary to the kitchen to be grouped on two walls, and almost within one arm's length either way.

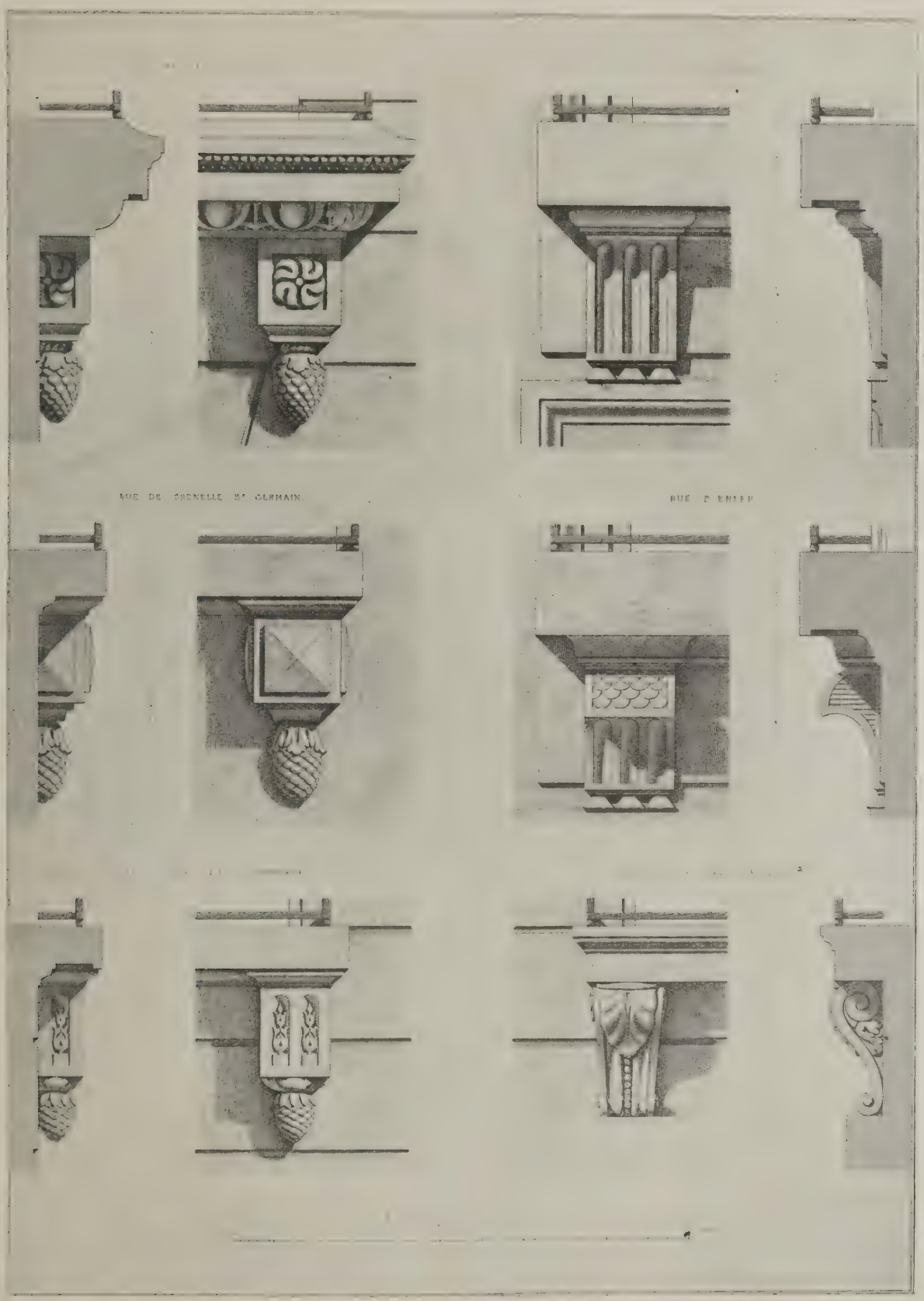
The cooked food is placed straight into the hot plate hatch or the refrigerator, as the case may be. All meals are served through this hatch, which contains three shelves for different courses, each course being taken out to the dining-room table as required, and returned into the return hatch when finished. The laundry is also arranged to follow the routine of work.



"DAILY MAIL" HOUSE COMPETITION: GROUND- AND FIRST-FLOOR PLANS, FIRST PREMIATED DESIGN.

C. J. KAY, Licentiate R.I.B.A., ARCHITECT.

Small Consoles from Paris Buildings (Louis XVI. Period).



These consoles, selected by M. César Daly from buildings of the Louis XVI period in Paris, are reproduced from that eminent architect's magnificent collection of "Motifs Historiques." The plate suggests a variety of forms that might be appropriately adapted to modern elevations.

Correspondence

Proposed £150 Dole to Builders: Another Suggestion.

To the Editors of THE ARCHITECTS' JOURNAL.

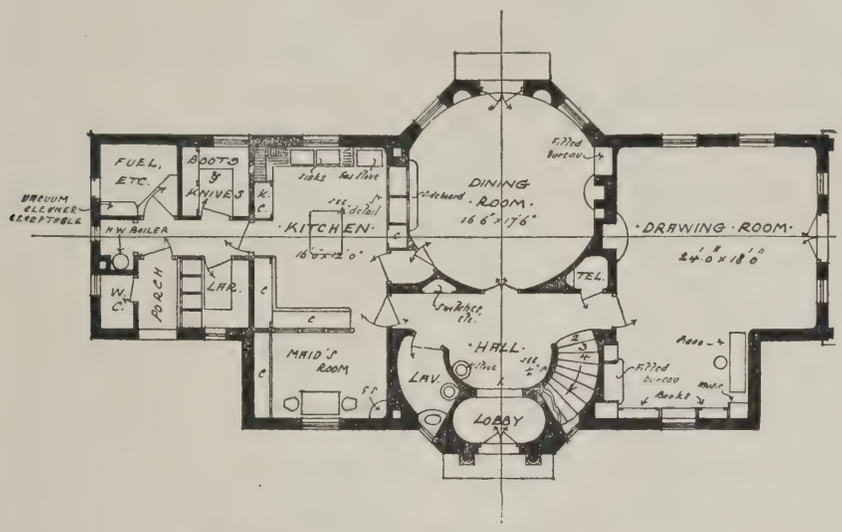
SIRS,—We beg to draw your attention to the accompanying proposal which, in our opinion, would overcome the difficulty of obtaining suitable housing accommodation now experienced by all classes of the community. Under the scheme of building outlined the architect, builder, and client each resumes his old position, and anyone requiring a house would select a site, instruct his architect to prepare a suitable design, obtain tenders, and enter into the usual building contract. All that the Government has to do is to authorise or subsidise a loan by those bodies whose business it is to deal with the financial aspect of a proposal for building. But in order to ensure efficiency in working the Government would also require to consent to the immediate release of all building materials, and the vast accumulation of stores of various kinds that exists to-day must no longer be held up by the Ministry of Munitions. Notwithstanding the fact that the present acute stage of house shortage has been accentuated by the war, it is nevertheless true that the primary cause of the dearth of suitable housing accommodation was in existence prior to 1914. Indeed, it can be traced back to the unfortunate Finance Act of 1909-1910, and the repeal of this Act, which has proved an abortive one, would greatly facilitate the success of the scheme to which we are now directing your attention.

DOUGLAS KERSHAW AND CO.

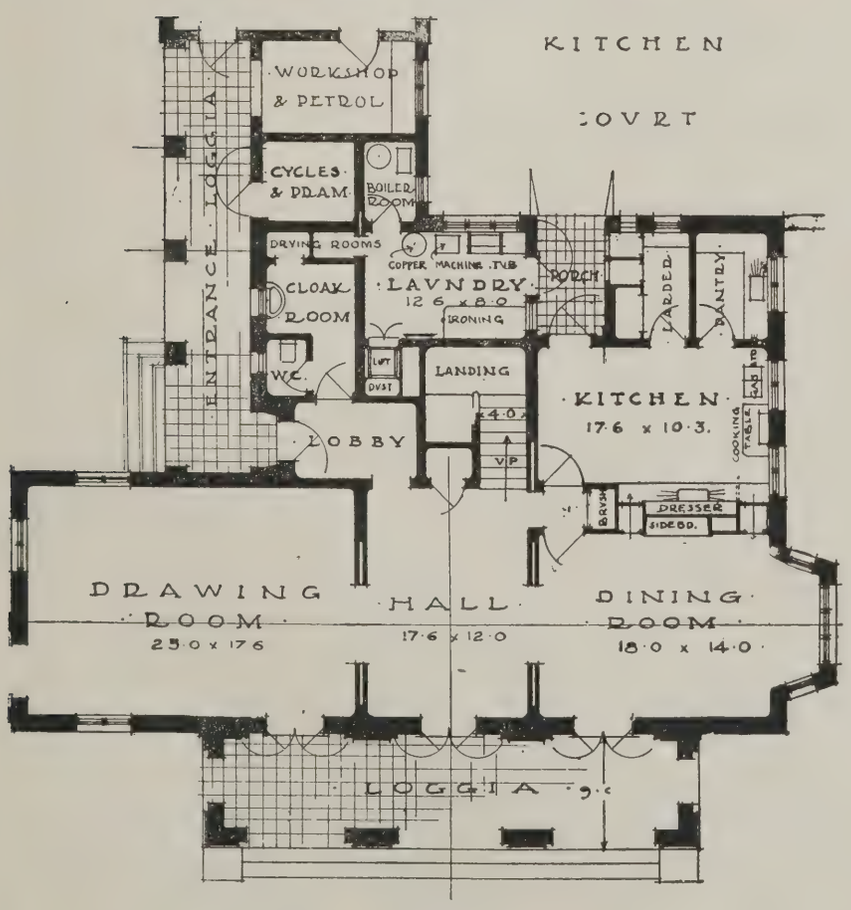
The principle governing the proposal is one which relies upon assistance from the Government, for married couples (who are not at present householders), in the form of subsidy. It is suggested that the prospective householder should be enabled to order a house when and where he requires it, the Government providing on loan the greater portion of the amount required to purchase a site and build a house. The following conditions would meet all contingencies: (1) The prospective householder to provide 10 per cent. of the cost of house and land. (2) The Government provides on loan the balance. (3) This balance to be repaid, including interest on capital, spread over periods of either fifteen, twenty, twenty-five, or thirty years, according to age of borrower. (4) The borrower's life to be insured against the amount of loan outstanding during such period, so that in the event of his demise the next-of-kin would remain in possession freed of the debt. (5) Government valuers (existing Assessment Committee) would assess the preliminary cost from plans and specifications. (6) The cost of building to be advanced on schedule as the work proceeds (certified by the local authority's surveyor). (7) The prospective householder to receive this assistance for one house only. (8) The property cannot be sold or let, or any part of it let off until the loan is discharged, and benefits of this scheme will not be forthcoming more than once to the same party. (9) In default of repayment being kept up, the property may be sold and the amount of debt and costs liquidated out of proceeds, but if in default through unemployment (other than wilful) the amount of capital paid off will be refunded upon vacation of property, less the amount of debt up to date and rental value of occupation, thus providing the unemployed with funds when most needed.

Taking the cost of a house and land at £1,000, the applicant deposits £100, the Government advances £900, bearing a reduced rate of interest, which reduction would be less expensive to the country than the suggested £150 dole, and would be rendering assistance in the direction in which it is most needed. The whole cost is returnable to the Government, being paid for out of applicant's income, which payment would not prove a greater hardship to the occupier than paying rent. In face of to-day's ruling price, we can show that it will cost considerably less.

Our correspondents suggest that the scheme could be worked through the agency of insurance companies and building societies, so that all the Government would have to do would be to subsidise these corporations, as they have all the necessary machinery already organised for putting such a scheme into effect.



2nd Prize. G. Berkeley Wills, A.R.I.B.A., Architect.



3rd Prize. E. W. Armstrong, Architect.

"DAILY MAIL" HOUSE COMPETITION: GROUND-FLOOR PLANS OF 2nd AND 3rd PREMIATED DESIGNS.

(*See page 13*).

Practical Geometry for Architects

NOW that so many architects are returning to civil life after a prolonged absence on active service the time seems opportune to give, as a "refresher" course, a few hints on the salient features of practical geometry. The Beaux Arts system of instruction, and the French ateliers generally, have developed the science of practical geometry to a greater extent than we at present find common in our instruction, and the French school show in their designs the results of this training. Choisy, D'Espouy, Perrot and Chipiez, Viollet le Duc, and many others in their literary work use to a great extent the advantage of "metric" and "isometric" projection, of which the following is a brief résumé.

Isometric.—The general type of projection usually employed by the constructionalist may be summarised as:

1. Orthographic projection. (Plans, elevations, sections, etc.)
2. Pictorial projection.—(a) Isometric, (b) perspective.

The advantages of pictorial projection are easily understood when dealing with anyone not trained to read the usual technical drawings. In differentiating between the forms of pictorial projection it is again easily realised that a pictorial form which may be scaled serves a more useful purpose than the true perspective, which is purely pictorial.

The isometric projection satisfies to a great extent the objects of pictorial representation, and has within its limits the practical advantage that it can be used as a scale drawing. The theory of isometric is quite simple: if a cube be drawn in such a position that its diagonal is vertical (see Fig. 1), the resulting view at A is a pictorial representation of a cube, with all the edges remaining equal in length and also equally inclined to each other. Of course, this isometric is reduced in size as compared to the original orthographic view of the cube, but the ratio between the real size of the cube and the isometric view is in practice ignored.

The "metric" projection used more particularly by the French school of draughtsmanship (see Choisy, D'Espouy, etc.) has for its basis a similar line of reasoning to that of the isometric. The edges of a cube may be projected so that from an orthographic view they are finally neither equally inclined nor of equal length. To apply this metric projection to dimensioned items and to retain scales to use upon the drawing, three scales have to be made, one for each of the axes. See Fig. 2.

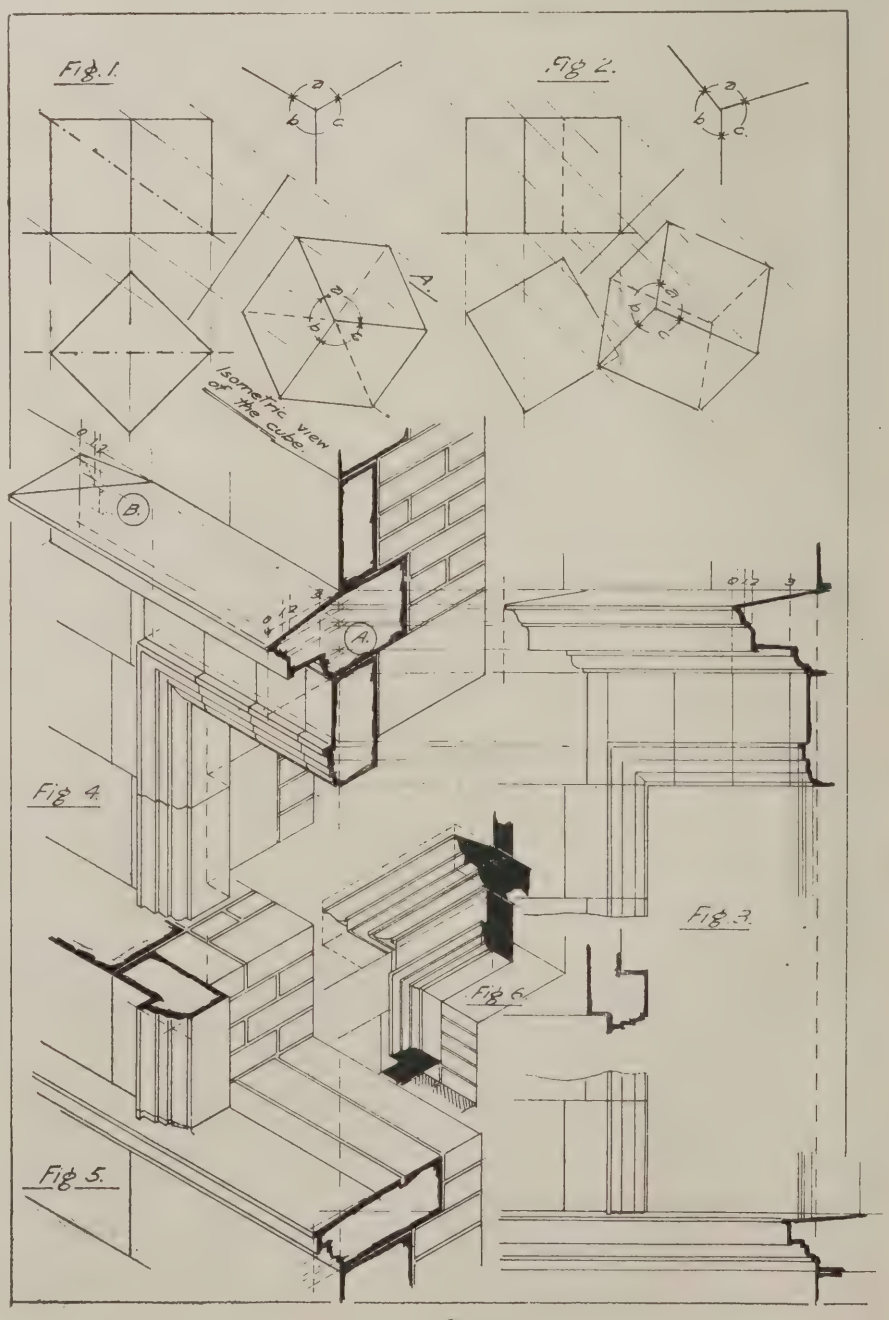
Reverting to the simple and practical isometric, the most applicable rendering is to those details where no inclined members occur. Innumerable details of construction are easily rendered in this pictorial manner, and the examples illustrated show the application to a few typical cases.

Fig. 7 shows in ordinary projection part of the timber framing of a wood roof, and Figs. 8, 9, 10, and 11 illustrate the scope of isometric, and at the same time show the distortion of the inclined members. The four views of the same detail are deduced from the central figure (Fig. 7). The variation of the resulting drawings is due simply to the adaptation of the isometric axes. For clearness a line diagram showing the angles of these axes is attached to each result, and lettered in each case a, b, c, corresponding to the length, breadth, and depth of the simple rectangular form of the cleat B used under the straining beam. Fig 7 shows in dotted lines the necessary construction to obtain (1) the incline of the rafters, (2) the outline of the head of the post, (3) the tilt of the purlin, and if the dotted construction lines be followed upon Figs. 7, 8, 9, 10, and 11, no difficulty should be found in setting out the outlines of the different parts in conjunction with the axes adopted. The various members which are parallel in the original drawing of this detail, remain parallel in the projected isometric view.

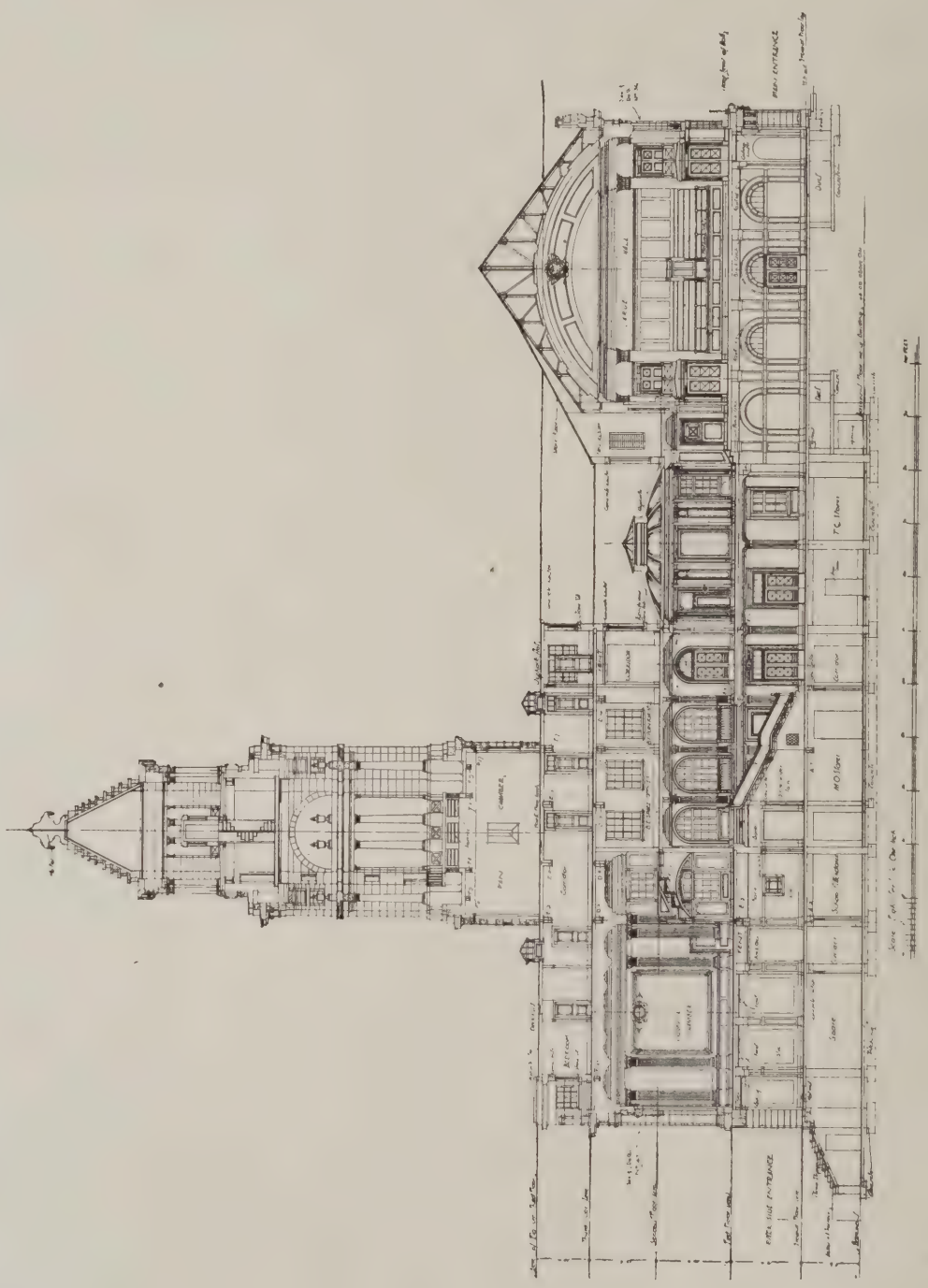
The illustrations, Figs. 8, 9, 10, and 11 show the distortion in dealing with inclined surfaces and solids. A scale is attached to the illustration, and by measurement it will be found that the (real) horizontal and vertical dimensions can be checked, but the inclined dimensions are only obtained indirectly. For this reason isometric has no true scale value in dealing with inclined surfaces (roofs, pediments, stairs, etc.), except from the purely pictorial standpoint. Figs. 3, 4, 5, and 6 illustrate the application to a simple detail in masonry. In this case one set of axes are used, but where necessary the upper part of the window opening could be drawn as shown in the smaller diagram (drawn to ½ scale) Fig. 6.

The method of projecting the cornice the return ends is shown at A and B (Fig. 4). Generally, when dealing with outlines other than of purely rectangular form, the curved, irregular, or moulded feature is enclosed in a rectangle, and by cross ordinates the actual shape set out (see particularly Fig. 4, A and B). In a similar manner, by means of enclosing squares, circular outlines would be determined in isometric; and these circles when in horizontal or vertical planes, become elliptical, and in the case of spherical objects, such as a dome, the circular outline at the springing is first determined, and the domical covering struck as a true segment of a circle to fit on to the base of the dome at the springing level.

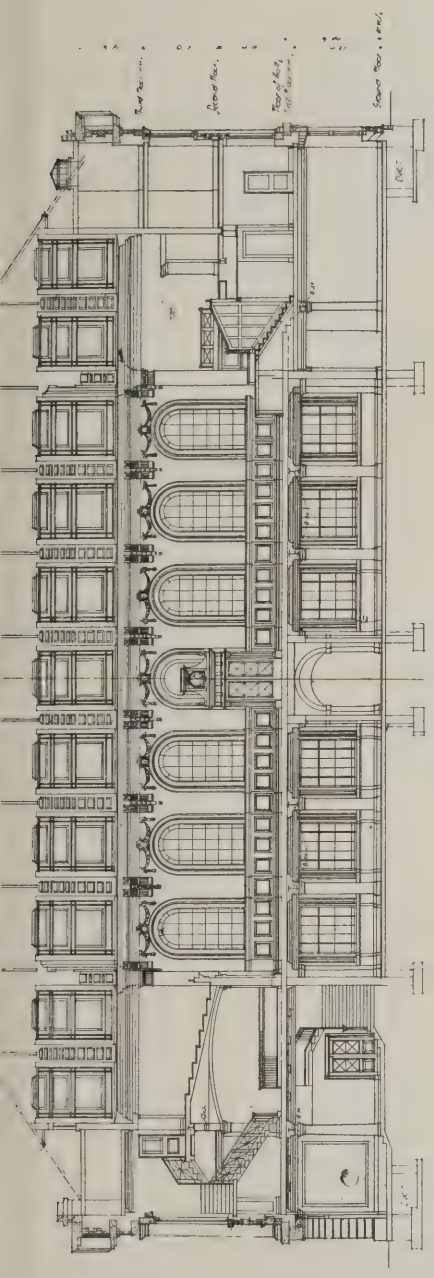
A. E. H.



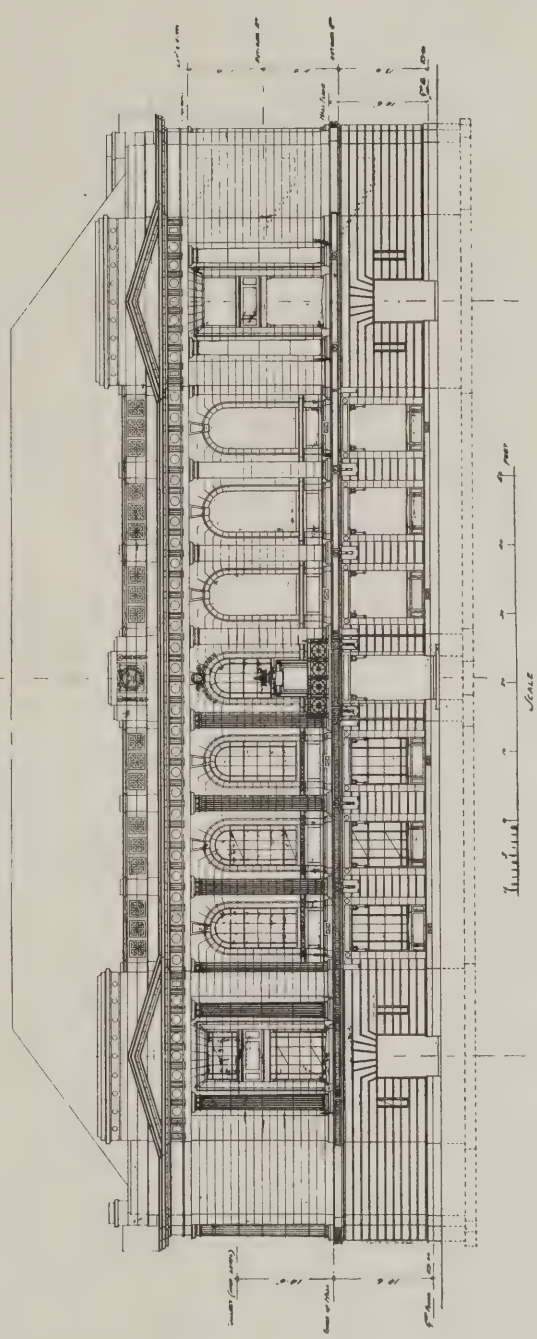
Wallasey Town Hall, Cheshire: Section and Rear Elevation.
Briggs, Wolstenholme, and Thornely, FF.R.I.B.A., Architects.



SECTION A-A.



SECTION F-F



WEST ELEVATION FACING BRIGHTON STREET

Some photographic illustrations and a plan of this fine new building were given, together with a descriptive article, in our special New Year's issue. The hall is erected on what is known as the North Mead site which, occupying an area of more than two acres, forms an elevated plateau some 36 feet above the promenade. The building provides accommodation for the various municipal offices and departments, and includes also a large public hall, with a seating capacity of 1,200. A feature of the exterior is a massive tower 34 feet square, and 180 feet high. On the four corners of this tower are groups of statuary representing Peace, Courage, Prudence, and Industry—the work of Mr. Bernie Rhind, R.S.A., of Edinburgh. The facing of the building is white Stancliffe stone from Derbyshire.

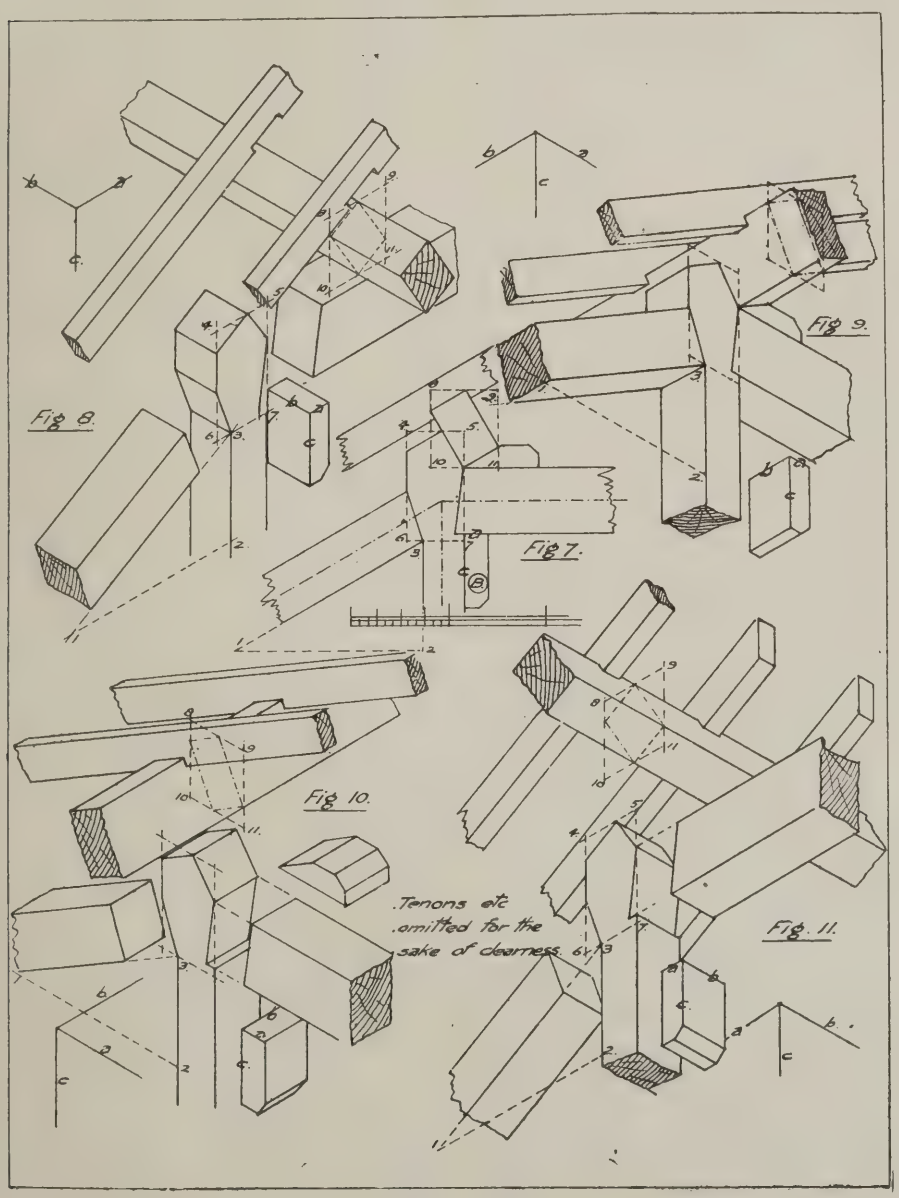
Societies and Institutions

Irish Architects and the Housing Schemes.

With regard to the employment of qualified architects on housing schemes the Royal Institute of Architects of Ireland state in their annual report, to which reference was made last week, that although they made representation to the Chief Secretary for Ireland, the Housing of the Working Classes (Ireland) Bill was introduced without any reference to this important matter. The Council, fearing a repetition of the undesirable conditions in the Labourers' Ireland Act, 1906, drew up a complete statement of their position, which was forwarded to the Chief Secretary, the Local Government Board, and various members of Parliament, from whom sympathetic replies were received.

The Local Government Board issued a circular to all local authorities directing that all housing schemes should be prepared by competent architects, and that where the local authority have in their employment a properly qualified engineer or surveyor he must obtain the assistance of competent architects in preparing the plans. The Council regarded this clause as one of great importance to the profession, but felt that it was of equal or greater importance that the qualifications of an architect should not be left entirely to the judgment of a Government Department. They, therefore, continued to press their views upon the Ministers, but, unfortunately, the Bill passed the House of Commons without the addition of any satisfactory clause on the subject. The Chief Secretary subsequently consented to receive the Secretary of the Institute, who presented two draft clauses, which the Council held should either be incorporated in the Bill or inserted in a Local Government Board Order for the protection of the profession, to ensure that the thousands of working-class dwellings proposed to be erected should be well designed and well built under the supervision of qualified persons. As a result, a clause was inserted in the Housing of the Working Classes (Ireland) Bill, 1919, as follows: "The Local Government Board may make rules for carrying the Housing Acts into effect, and in particular for prescribing the duties, conditions of employment, and qualifications of officers and other persons employed by local authorities in the execution of those Acts; provided that any rules with respect to the qualifications or conditions of employment of architects to be so employed shall be made after consultation with the President of the Royal Institute of the Architects of Ireland."

A panel of architects who may be employed on housing schemes by local authorities has been created, and upon this panel registered members of the Institute and of the R.I.B.A. practising in Ireland have, *ipso facto*, been placed. Any other person who may be employed must submit his qualifications to a committee specially appointed to consider them, consisting of the Housing Committee of the Local Government Board assisted by two members of the Council of this Institute. The Council feel that the result attained will not only prove of ultimate benefit to the whole architectural profession in Ireland, but will tend to safeguard the industrial classes against the evils arising from badly-designed and ill-constructed houses. The President and the Council have been in close contact with the Housing Committee of the Local Government Board on many subjects connected with housing schemes, and have advised on the supply of materials, standardisation of fittings, the employment of draft specifications and kindred matters. A recommendation has been made to the Committee that no clerk of works should be employed on housing schemes without the approval of the architect to the scheme, and that no contractor should be employed on housing schemes until he has satisfied the solicitor to the local authority of his solvency and the architect of his competency.



(See Article on page 13.)

Nottingham and Derby Architectural Society.

Mr. P. H. Currey, F.R.I.B.A., of Derby, delivered a lecture on the Manor House of Wingfield before a meeting of the Nottingham and Derby Architectural Society. Mr. Watkins, the President, occupied the chair.

Mr. Currey pointed out that the special interest of Wingfield consisted in its being an example of a fully-developed type of English country house, all built at one time. The house was built round two courtyards, and was a natural development from the Saxon hall with bank and stockade. The outer court comprised the great barn and farm buildings. Features of the manor were the beautiful masonry, the entrance to the inner court, and the numerous chimneys. The porch and oriel of the great hall, the centre of life in a mediæval house, were fine examples of fifteenth-century work at its best. The drawing-room had often been called the chapel, but, in Mr. Currey's opinion, this was an error due to the large traceried window. The site of the chapel was unknown. Attention was called to the beautiful treatment of the vaulted roof and carved bosses of the undercroft. The greater part of the captivity of Mary Queen of Scots was spent at Wingfield until she was removed to Tutbury. The manor passed to the Earl of Pembroke in 1616, and on the outbreak of civil war was garrisoned for the Parliamentary Party, but was captured for the King after four days' siege by William Cavendish, Earl of Newcastle. In 1644 it was besieged by Colonel Gell. Colonel Dalby held it with great stubbornness for many months, but it was finally taken by assault. The house was dismantled by

order of Parliament. After the Restoration it passed to the family of Halton, the present owners. It was then partially restored, the hall divided into two storeys, and several rooms and square-headed windows inserted.

A letter was read from the Town Clerk of Nottingham stating that the School of Art Committee regretted that it was not possible to accede to the suggestion that a representative of the society should be co-opted on the committee. Two associates were elected.

The R.I.B.A. and the Institute of Scottish Architects.

An important reorganisation of architectural societies in Scotland has just been completed. The independent societies which previously existed have united to form the Institute of Scottish Architects, with five Chapters at Glasgow, Edinburgh, Dundee, Aberdeen, and Inverness. The first president of the new body is Mr. William Kelly, A.R.S.A., of Aberdeen. The constitution and by-laws have been approved, and the new body has been admitted as an allied society under the provisions of the Charter of the Royal Institute of British Architects.

National Society of Art Masters.

In his presidential address at the annual conference of the National Society of Art Masters, held at Birmingham, Mr. R. T. Mumford, Willesden, said that art had been undervalued and its place in education was still a minor one. By the rigid system prevailing in many centres much valuable artistic talent was lost to the nation. Owing to the lack of art scholarships thousands of gifted children were prevented from embarking on what nature had intended to be their career, but that the deficiency was to be remedied by the new Education Act. Lord Rothermere had recently complained that, despite all the public money spent upon Government art classes, they had not produced one really first-class painter. The critic evidently forgot Sir William Orpen and Mr. George Clausen, and ignored the main purpose of the schools, which was not to train first-class painters but to improve industrial design.

The Concrete Institute.

Mr. Maurice S. R. Adams, A.R.I.B.A., presented a paper on "The Use of Elliptical Vaulting as a Primary Factor in Contemporary Architecture" before a recent meeting of the Concrete Institute. Beam construction as practised to-day, he thought, was not only unscientific, but unarchitectural. In a beam supporting an equally distributed load the weakest point was at the centre of the span. In order to make such a beam truly scientific and architectural, the cross section would have to be reduced in exact proportion to the diminishing strength required. This would be virtually impossible to do in practice owing to the difficulties of manufacture; also for other reasons it would not be at all desirable. But here at once we came up against the question of the natural stresses of tension and compression; and he would lay it down as a maxim that as far as possible all tensional stresses should be eliminated and compressional stresses relied upon.

The age of concrete building had not yet begun, and he foresaw great possibilities for a future style of architecture, when the real characteristics of concrete were realised. An advantage of semi-elliptical vaulting was that the vaults may spring immediately from the floor level instead of being superimposed at a higher level upon walls or piers. Thus all thrust was absorbed at the ground level and no system of buttressing was required. Further, the vault or roof being thus self-supporting, all structural or weight-bearing walls were eliminated from the building. The gable walls closing the ends of the vaults were in effect panels rather than walls, and consequently their thickness may be reduced to that of a partition.

The stability of vault construction, whether of stone or concrete, lay in the fact that the vault substance was built, not vertical, but falling, and the weight of the material used served to increase the vault's strength. Within the limits of compressional strength a vault could be uniformly loaded to any extent desired. Loaded vaults would be actually stronger than the unloaded vaults.

The method of teaching design in our schools of architecture was at fault. In order to assist the students in their study of the principal styles, they were encouraged to prepare designs for modern subjects having the outward form of the leading periods. It was not uncommon for a student to go through the whole age of architecture in this manner, commencing with the Greek and finishing up with a design in the most approved Tudor style. This method of instruction was fundamentally wrong and opposed to the true principles of architecture. Effect was studied without proper regard as to cause of effect. The causes from which many architectural features sprung have now ceased to exist, and their present introduction was therefore meaningless. Rather should present causes and conditions be considered and allowed to find full architectural expression just as earlier causes and conditions found expression, and therefore determined the nature and manner of earlier types of architecture. The designer having determined the several proportions of his building would be free to ornament, enrich, and humanise it by applied ornament. Works of architecture should be designed from the inside and not from the outside. The internal form of a building would be determined by practical considerations and structural necessity. The outside of a building may be left to take care of itself, when it would express quite naturally the form of the interior and true shape of the building.

With new methods of monolithic construction in reinforced concrete new types of design became possible, opening up a wider field for design. Mr. Adams's paper concluded with some remarks on designs and buildings which the author had constructed with roofs of semi-elliptical reinforced concrete vaults.

Lantern slides were shown illustrating some of the standard bungalows now being erected by Mr. Adams. One bungalow had been erected at Ruislip, Middlesex. The living-room measured 21 ft. 6 in. by 17 ft. 6 in., by 9 ft. 6 in. high, and formed the principal feature of the house. The hall was fronted by a verandah, from which it was divided by folding glazed doors. At back of hall, separated by a lobby, were bathroom and lavatory. There being no hot water service, the bath was connected and supplied with hot water from a gas copper placed in a corner of the bathroom. The accommodation included two double bedrooms, one single bedroom, passage, and small kitchen scullery.

R.I.B.A. Examinations

The following instructions to candidates who wish to take the final examination—alternative problems in design—have been issued by the R.I.B.A.:

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9, Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, and his full name and address, and the name of the school, if any, in which the drawings have been prepared must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

4. Drawings for subjects (a) are to have the shadows projected at an angle of 45 deg. in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

Subject XLIX.

(a) An Elliptical Grand Staircase and Vestibule in a Gentleman's House.—The candidate is to indicate the rooms adjoining the staircase.

Drawings.—½-in. scale: one plan and two sections.

(b) A Factory on an Island Site Outside the London Area.—Building to be 100 ft. square and have six floors, the top floor to carry machinery (4 cwt. per sq. ft.). The whole to be fireproof.

Drawings.—⅛-in. scale: plan, elevation and sections, ½-in. sectional detail.

Subject L.

(a) A Town Church to Seat 800 Persons.—Material, ferro-concrete. Corner site.

Drawings.—⅛-in. scale: plan, section, and two elevations. ½-in. detail.

(b) A Dairy Farm for 100 Cows: With Bailiff's House.

Drawings.—⅛-in. scale: plan, sections, and two elevations.

Subject LI.

(a) A Memorial "Open Access" Library on Corner Site.—70 ft. square. Rooms: Newspaper, reading, magazine, reference library. Small museum, small lecture room. Stock room in basement.

Drawings.—⅛-in. scale: plans, elevations, and two sections. ½-in. detail.

(b) A Permanent Canteen for a Works, with Simultaneous Seating Accommodation for 600 Men and 600 Women. No waiting.

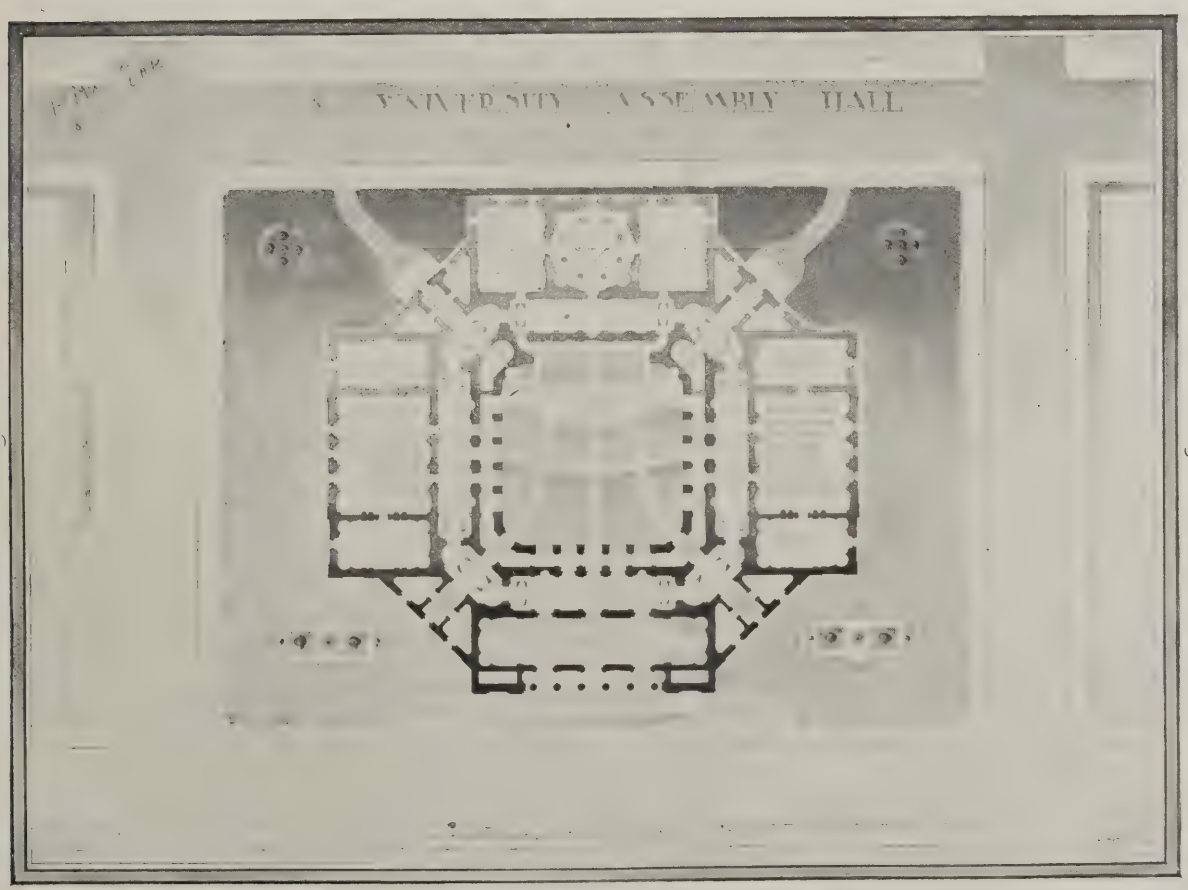
Rooms: Rest and smoking rooms. Kitchen and all necessary offices. Lavatory accommodation for kitchen staff. Manager's office.

Drawings.—⅛-in. scale: plans, sections and elevations.

Dates for Submission of Designs in 1920

	Subj. XLIX.	Subj. L.	Subj. LI.
United Kingdom	28th Feb.	30th April	30th June
Johannesburg	30th April	30th June	31st Aug.
Melbourne	31st May	31st July	30th Sept.
Sydney	31st May	31st July	30th Sept.
Toronto	31st Mar.	31st May	31st July

Design for a University Assembly Hall. *By* W. Dougill (Liverpool University).



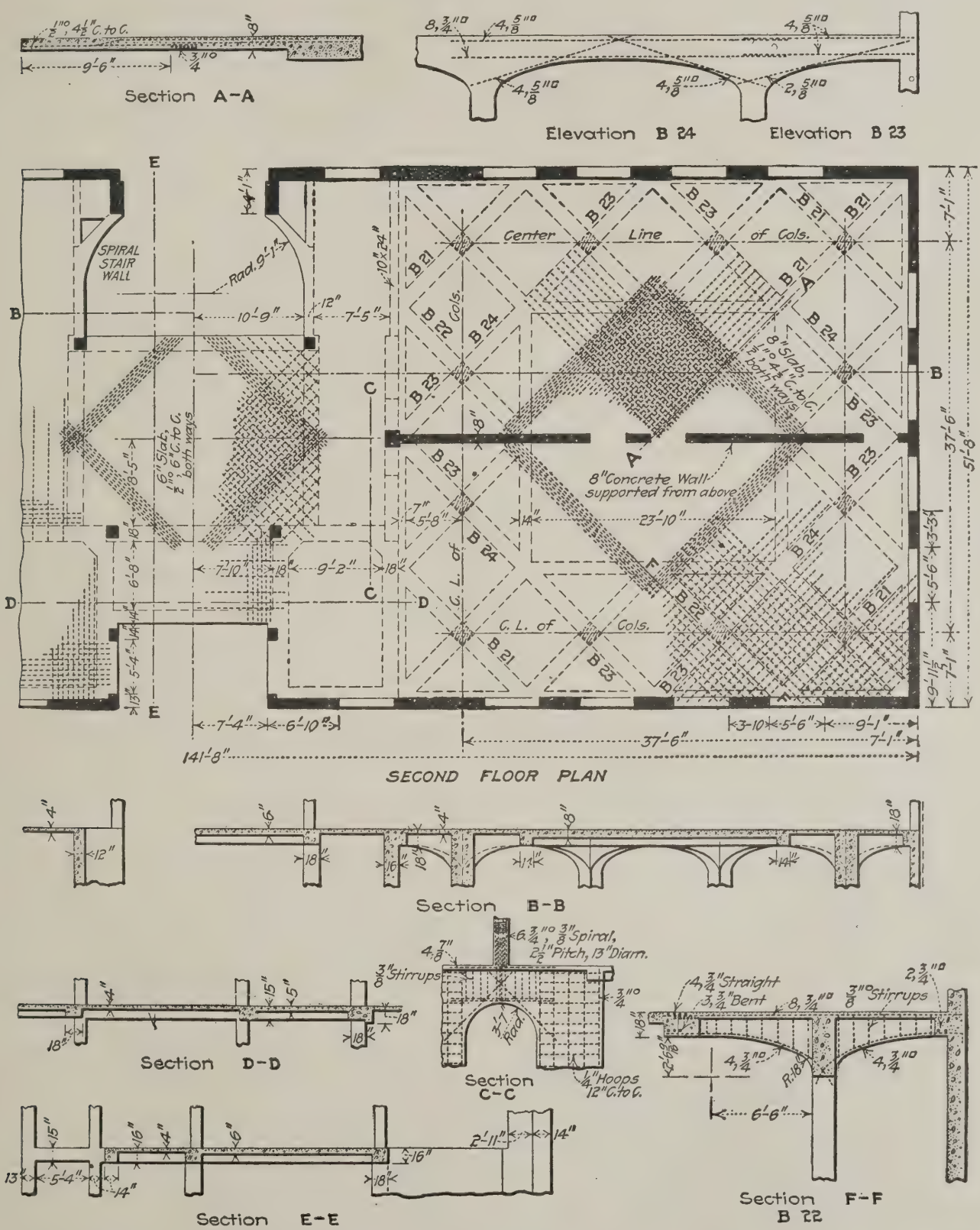
These beautifully rendered drawings are typical of the work produced by students of the Liverpool School of Architecture under the direction of Professor C. H. Reilly. They should be studied in conjunction with the fine elevational drawing which was given in our issue for December 24.

UNIVERSITY OF CALIFORNIA
AT
BERKELEY

Some Reinforced-Concrete Details

A SQUARE reinforced-concrete floor slab with a clear span of 37 ft. 6 in. is a special feature of the School of Law building of the Emory University at Atlanta, U.S.A. Other features are a spiral stairway and a roof girder of 52 ft. 2 in. span, which carries the roof load and a depending 8 in. concrete partition. According to the "Engineering News-Record" the plan is about 53 ft. by 154 ft. Concrete foundations of unreinforced spread footings 2 ft. wide, for the walls are carried down to stiff clay, and the interior columns are supported by concrete piers without steel, the loads for these two-storey structures being relatively light.

The basement is excavated on one side only, and has a 6 in. concrete floor. The main entrance leads through an arched passage directly to the spiral stairway in the rear. On the first floor at the west end is the large library, about 52 ft. square, with twelve diagonal columns which support the second floor and are spaced about 7 ft. inside of the walls. Offices and a large lecture-room, with stepped sloping



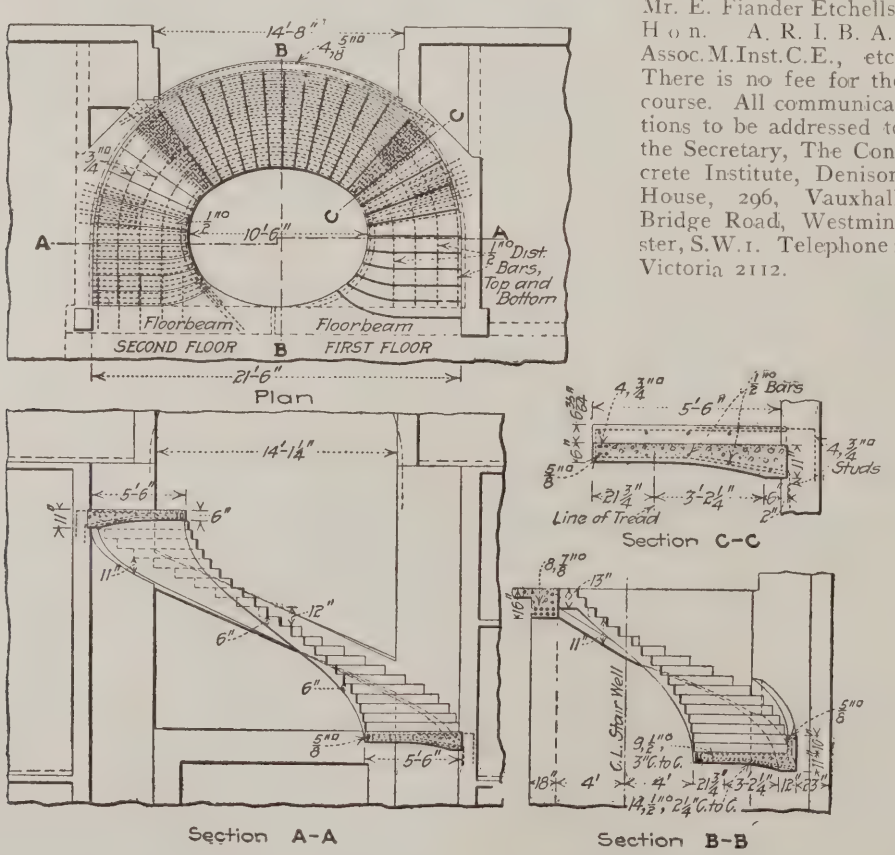
SPECIALLY DESIGNED FLOOR SLAB, 37½ FEET SQUARE, AT THE SCHOOL OF LAW BUILDING, EMORY UNIVERSITY, U.S.A.

floor, occupy the balance of the first floor. The second floor consists of lecture-rooms and offices.

Springing from a beam of the first-floor framing a spiral stairway of reinforced-concrete 6 ft. wide winds through an angle of 180 deg. to a parallel beam of the second-floor framing about 18 ft. above. The rise of each step is slightly over 6½ in. and tread 11 in., and the concrete is faced with marble slab treads 3 in. thick and risers 2¼ in. thick. The concrete steps are reinforced by both radial and spiral steel. To support the curved steps at intermediate points reinforced-concrete cantilever beams are used at the walls, and the spiral steel is designed to transfer loading to these beams. The walls and columns in plan are as near the spiral stair as practicable in order to decrease the bending effects of the cantilevers.

The large unsupported floor slab is over the library. Diagonal beams, curved on the bottom and acting as cantilevers over the columns, support an 8-in. slab with two-way reinforcement combined with diagonal steel for beam action to carry loads to peripheral girders forming a deep central panel. In the design of these beams constant moment of inertia was assumed, and the loading, which is taken as 75 lb. per sq. ft., was considered uniformly distributed over all area tributary to each beam according to the usual assumptions of simple beam action. In the design of the slab, diagonal groups of rods were carried across the corners of the square, making possible an 8-in. slab by using two-way diagonal rods tributary to these strongly reinforced sections acting as beams.

A similar slab is on the second floor above the entrance corridor, about 17 ft. square and only 6 in. thick, where the same principle of load distribution by slab-and-beam action was applied. In the case of the large slab over the library, the dead load was decreased by supporting the 8-in. concrete partition wall from a reinforced-concrete girder in the roof above. The reinforced-concrete roof girder of 52 ft. 2 in. span was adopted to carry the roof loading and weight of partitions to the outside wall and interior column. The latter column is 16 in. by 18 in., and delivers the load to a wall beam carried by interior walls or columns, as seen in the plan. In designing this girder, 5 ft. 7 in. total depth, an 8-in. web thickness was used with a lower flange widened to 14 in. to accommodate the twenty-two reinforcing rods required, and using the roof slab as upper flange area. The 3-in. concrete ceiling is framed into concrete beams which extend upward to give a flat ceiling. Above the concrete framework is a red tile sloping roof, which is supported on timber framing.



REINFORCED CONCRETE STAIRWAY AT EMORY UNIVERSITY, U.S.A.

The Concrete Institute

A course of six educational free public lectures will be given at the Concrete Institute on the following dates at six p.m.: February 6 and 20, March 5 and 19, April 9 and 16. The lectures, which will be given in the Council Chamber of Denison House, 296, Vauxhall Bridge Road, Westminster, S.W.1 (close to Victoria Station), will be of approximately one hour's duration, and will be illustrated by diagrams, photographs, specimens, and apparatus, as necessary. The syllabus is as follows: February 6, "Demonstrations on the practical testing of cement," by Mr. H. K. G. Bamber, F.C.S., etc.; February 20, "Some points in reinforced concrete design," by Mr. H. Kempton Dyson; March 5, "Some properties of steel," by Mr. Ewart S. Andrews, B.Sc.(Eng.); March 19, "Notes on the practical application of reinforced concrete" by Dr. Oscar Faber, O.B.E., D.Sc.; April 9, "The uses of concrete," by Mr. T. J. Clark; April 16, "Submission of plans to local authorities," by Mr. E. Fiander Etchells, Hon. A. R. I. B. A., Assoc.M.Inst.C.E., etc. There is no fee for the course. All communications to be addressed to the Secretary, The Concrete Institute, Denison House, 296, Vauxhall Bridge Road, Westminster, S.W.1. Telephone: Victoria 2112.

Enquiries Answered

Shading Drawings: Cost of Public Buildings.

J. W. B. (Leeds) enquires: (1) "What is the method used chiefly for shading drawings such as used at the architectural schools to-day? Is the brush or a spray used, and what is the best tint to use? (2) Also what would you consider a reasonable price per ft. cube to-day for public buildings of a simple character, such as libraries?"

—(1) The usual method of shading a drawing is to follow the French system: the drawing is first rendered with a wash of yellow ochre or of peach-yellow, and the shadows are then rendered by a series of washes, each succeeding wash being put on when the previous one is dry. This is in order to secure reflected light. The most suitable colour for shadows is without question ivory-black. The spray is never used for shadows, but only for backgrounds. (2) The average cost per cubic foot of the building in question would probably be 2s. 3d., the figure varying from 2s. to 2s. 6d., according to locality and circumstance.

Soundproof Partition.

F. B. (Chingford) writes: "Please advise me as to the best form of soundproof partition to substitute for a wooden partition panelled both sides, through which conversation can be heard, even with the communicating door closed."

—In this case the best way of remedying the defect would probably be to take off the panelling on one side, fill the space between the studs with silicate cotton packed closely, put strips of impregnated felt on the face of the studs and refix the panelling.

Dull Finish on Oak Half-Timber Work.

F. G. (Lincoln) writes: "What is the usual and best method of treating solid half-timber work (oak) so as to obtain a dull finish and old effect?"

—The dull finish and silvery colour of old oakwood results from the surface of the wood being left from the tool untreated in any way. New work so left will develop a similar effect after two or three years' exposure.

Composition to Resist Sulphur Fumes.

W. J. writes: "Can you recommend a composition with which to line a bleach house? The composition should be able to resist sulphur fumes and should preferably be in sheet form with air-tight joints."

—The choice of a suitable material depends entirely on the amount of money to be expended. Large sheets of glass with rubber strips between and behind the joints would be an ideal way of overcoming the difficulty. The glass could be held in position by stout brass pins covered with paint. The spraying of tar on the present walls would be a cheaper method, but this might make the room too dark. It is, however, sometimes possible to spray whitewash on top of the tar. In works where sulphur dioxide fumes are manufactured the chambers are usually lined with thick lead, the joints being specially sweated and well overlapped. Brickwork is usually satisfactory provided that the joists are covered with tar. Sulphur dioxide fumes chiefly destroy mortar, and do not easily attack bricks unless they are made of poor material or are imperfectly burned. The mortar must invariably be covered with glass, lead, tar, or some other non-resisting material.

Hollow Steel Section Construction

Among the many alternative forms of construction for housing that have been approved by the Ministry of Health one of the most interesting is that devised by Capt. Adams out of surplus war stores. The system was originally brought out when the inventor was attached to the Ministry of Munitions. At that time the Surplus War Stores Board held a large quantity of 16-gauge sheet steel originally intended for the engine mud shields of motor lorries. Here at hand was suitable material to form the entire framework of a house; the necessary covering being supplied by thin concrete slabs for outer walls and floors, and by covering the inside of walls with fibrous plaster, lath and plaster, or any other approved material. The proposed method of building would be somewhat as follows:

A framework consisting of such "hollow steel sections" is assembled and erected on foundation walls. (See the accompanying diagram.) On the exterior edge of the standards and upper edge of floor-joists thin reinforced concrete slabs are fixed, which form exterior walls or floors respectively. The interior edges of standards and lower edges of ceiling joists are covered with suitable walling or ceiling material, or lathing may be affixed to carry plaster. Partitions are formed either of breeze slabs or framed of hollow steel standards, footings of poured concrete, and foundation walls of concrete blocks. The windows are made of wood or preferably of light steel sections, staircases of reinforced concrete, and doors of wood.

The concrete slab floors can, if necessary, be covered with "mastic floor finish," but in ordinary artizans' cottages this would not be necessary. The staircases as well as the doors may be made of wood.

The Ministry of Munitions was sufficently interested in this system of building to authorise the erection of a portion of a house at Imber Court Experimental Station near Thames Ditton. The important points in its favour were the facts that bricks, which are at present difficult to procure, were dispensed with, that the cost of the completed building was also substantially less than brick, and that, as already stated, surplus war stores could be utilised. Houses erected on this method of construction are claimed to be fireproof, damp-proof, vermin-proof, hygienic, and speedily built.

Outer walls may be treated in such a manner as effectually to disguise the fact that they are made of concrete. Roughcast finish may be applied, the slabs having been previously scored to form a key for the plaster; but if machinery be used to manufacture the slabs, a suitable exterior surface will result by using steel moulds; or a rough surface can be obtained by "screeding," which gives the slabs the appearance of a finely cut or rough-chiselled stone, or of fine roughcast. If wooden floors are preferred to the proposed concrete ones, they can be readily substituted.

Coming Events

THURSDAY, JANUARY 8.

Society of Architects' Luncheon at the Trocadero Restaurant, Piccadilly Circus, W., at 12.30 for 1 o'clock, to Viscount Astor and Lady Astor, M.P., to present the Society's views on the housing question and on the position of architects in relation thereto.

FRIDAY, JANUARY 16.

Edinburgh Architectural Association, 117, George Street, Edinburgh. Lecture by Sir George M'Crae, Vice-President Scottish Board of Health, on "The State and the Home." In Synod Hall.

MONDAY, JANUARY 19.

The R.I.B.A., 9, Conduit Street, London, W.1. General Meeting: Sessional Paper. Award of prizes and studentships. At 8 p.m.

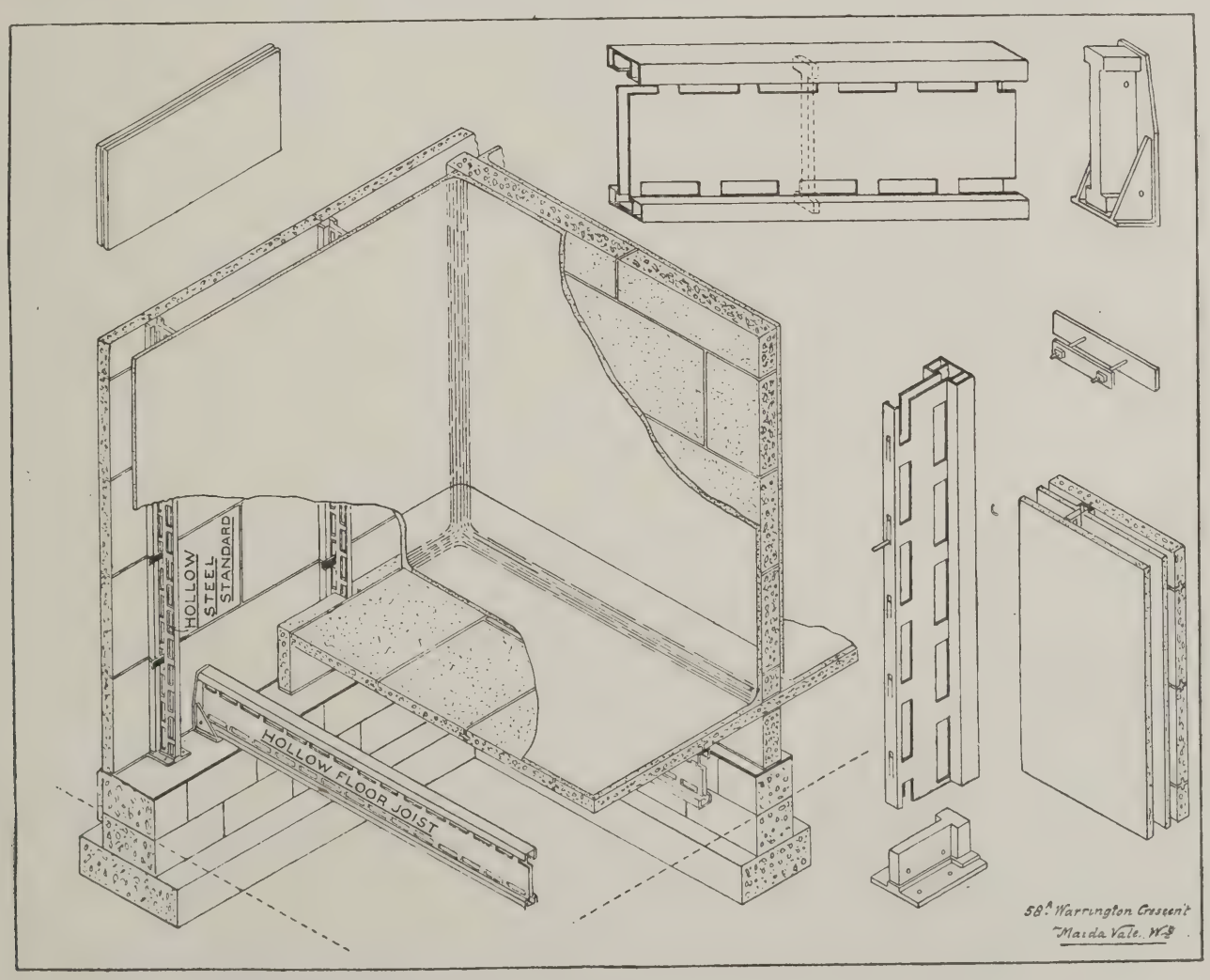
The Liverpool Architectural Society, 13, Harrington Street, Liverpool. A paper, with lantern slides, by Major G. W. Fraser, M.C., R.E., F.R.I.B.A., on "An Architect at the War." At 6 p.m.

WEDNESDAY, JANUARY 21.

Northern Architectural Society, 6, Higham Place, Newcastle-upon-Tyne. A paper by Professor A. Hamilton Thompson, "Some Mediæval Building Accounts."

THURSDAY, JANUARY 22.

The Concrete Institute, Denison House, Westminster, S.W.1. Paner by Dr. J. S. Owens, F.R.G.S., F.G.S., on "The Attrition of Concrete Surfaces Exposed to Sea Action." With lantern slides. At 7.30 p.m.



CAPTAIN ADAMS'S HOLLOW STEEL SECTION CONSTRUCTION FOR HOUSES.

Town Development and Housing

Manchester.

The C.C. are endeavouring to procure bricklayers for their housing scheme.

Newquay.

It has been decided to erect fifty-four houses. Tenders are to be invited.

Hayes.

Approval is being sought for the erection of 2,078 houses.

Edinburgh.

The reconstruction of nine tenements is being proceeded with at a cost of £1,989.

Louth.

Local authorities have so far failed to agree upon a site for a housing scheme.

Liverpool.

Three hundred and fifty army huts are being converted into dwellings.

Retford.

The T.C. have instructed the architect to prepare plans for 125 houses.

Deptford.

The Council has decided to advance £17,020 for the purchase of a site for housing.

Folkestone.

The foundation stones have been laid for several model houses to be erected in the fishing area.

Hemsworth.

Tenders have been accepted for the erection of 188 houses. The average estimated cost was £850.

St. Columb.

Plans for the erection of eighty-four houses have been forwarded to the Minister of Health for approval.

Leamington.

Warwick R.D.C. have decided to build thirty houses, apportioned among the adjacent villages.

Llandudno.

Tenders have been received for the erection of twenty houses, the lowest price being £16,971.

Bacup.

The Corporation is applying for sanction to borrow £20,000 as a first instalment of the borough housing scheme.

Birmingham.

It has been decided to build another 1,000 houses on the Quinton Estate, and according to the Council's own plans.

Banbridge.

The Council has decided to build sixty four-roomed houses, thirty of five rooms, and ten of six rooms—a hundred in all.

Wrexham.

The lay-out and house plans of 116 houses have been approved, and building operations are expected to begin in February.

Bo'ness.

Plans have been approved for the housing scheme, the first part of which provides for fifty houses. Another site also is being acquired.

Tilbury.

Tilbury is embarking on a large housing scheme, the plans for which have received the approval of the Ministry of Health. It comprises in all some 1,520 houses for the transport workers at the docks. The total estimated cost of the scheme, which includes a large triangular central park, is £1,500,000.

Chelmsford.

The R.D.C. has bought over 200,000 bricks at £5 per 1,000. The Council propose to meet the builders and discuss building projects.

Egham.

The Council has offered to purchase the huts used as the Red Cross wards, and to convert them into dwellings, purchasing the site on which they stand.

Stamford.

Estimates amounting to £28,585 for the erection of thirty houses having been received, the T.C. have deferred taking action owing to the expense.

Leeds.

A scheme has been prepared for the erection of 800 houses on one site, and 500 on another, all to be built of concrete, at an estimated cost of a million pounds.

Stratford.

A lay-out plan, providing for the erection of eighty-two houses, has been forwarded to the Ministry of Health for approval.

Blackburn.

Tenders, of £3,753 for each block of four houses, have been accepted for the erection of the second batch of houses provided for in the housing scheme.

Barking.

Tenders have been accepted for the erection of 106 houses on the Eastbury site. The cost, including drainage and fencing, is just over £1,000 per house.

Chertsey.

The lay-out plans for two schemes have been approved, and tenders for building are now to be invited. Application is being made for a loan of £2,160 to purchase a site.

Wakefield.

Four housing schemes are on hand, estimated to provide 1,500 out of the 2,000 required. On the Thornes Estate twenty acres have been set aside for a girls' secondary school.

East Lothian.

The tenders received for the erection of thirty houses showed that the cost would exceed £30,000. It was decided to advertise for a loan before accepting the tenders.

Bridlington.

Plans for the erection of twelve houses have been approved, and sanction has been given to the lay-out of other sites. Consent has been obtained to a loan of £680 to purchase another site.

Heston and Isleworth.

Sanction has been received to lay out two estates in Hounslow and Isleworth to provide for the erection of 1,320 houses of various types. A start is to be made at once.

Crediton.

Crediton Urban District Council recently considered a scheme to build eighteen houses at a cost of £20,000. The Housing Committee reported having considered block plans submitted by Mr. Dobell, architect, of Exeter, and they recommend the Council to obtain a loan to build the houses at Bell Field. It was decided to defer the question of applying for a loan until complete plans were forthcoming.

Glasgow.

A deputation of representatives of building trade unions has waited upon the local authorities to object to the poor quality of the "finishings" in the houses being erected, and to suggest a ceiling height of 9 ft. 6 in. instead of the 8 ft. 6 in. designed.

Co-operative Building.

In Birmingham a small co-operative building company has been formed, with a membership of about four hundred, mainly composed of building trade operatives. The company has undertaken, and commenced, the erection of a dozen houses.

Hebden Bridge.

The Housing Commissioner has decided that no reason has been shown for building 200 homes, and approval could only be recommended in respect of thirty to be built at Eaves Bottom. The Commissioner observed that the population has been decreasing since 1911.

Scarborough.

It has been decided to abandon the scheme of reconstruction in the East and Central Wards, and proceed with the Seamer Road and Stepney Road housing schemes. The abandoned scheme, including the building of houses in another part of the town, was estimated to cost over half a million.

Cardiff.

The federated builders, after consultation with the local authorities, have intimated their willingness to undertake the erection of houses at a price to be agreed upon between the authorities and the builders instead of submitting tenders. The federated builders will distribute the scheme amongst their members.

Lancaster.

The Lancaster T.C. have approved tenders for twenty-one more houses at £717 each for one block of eleven, and £759 for a block of ten, semi-detached. The tenders for the first six houses already agreed to, worked out at £737 each, exclusive of sites and street making. The total cost of the six hundred houses in the scheme is £500,000 or £550,000.

South Wales.

A conference of representatives from almost every local authority in South Wales has been held at Newport. Representatives were elected to the executive committee areas of the Housing Commission. The conference passed resolutions concerning the supply of materials and favouring the introduction of scientific costing.

New Methods of Scottish House Construction.

The Scottish Board of Health are prepared to consider special methods of house construction. The methods of construction submitted will be scrutinised by the technical experts of the Board, and if approved will probably be brought to the notice of local authorities and others engaged upon housing schemes. Applications should be addressed to the Secretary, Scottish Board of Health, 125, George Street, Edinburgh, and should be accompanied by full particulars of the proposed

method of construction, the accommodation to be provided, the approximate price per house, and the estimated life of the house.

Westminster.

Westminster C.C. have abandoned their scheme, decided on last July, to use the Poland Street Workhouse site for a housing scheme. The Housing Committee reported that they, and also the London Housing Board, had come to the conclusion that the site was far too costly to permit of an economic scheme, or even for conversion into flats.

Keighley.

The Keighley housing scheme is to be advanced another step by the building of a second experimental block of four houses. The first block of four dwellings, in course of erection, are scullery houses. The second block of houses are of the parlour type, with living-room, parlour, scullery, larder, etc., on the ground floor, and three bedrooms and bathroom on the first floor. Inside w.c.'s are also to be provided. From these experimental blocks The Keighley Town Council will obtain a definite idea of the cost of erecting the other 180 houses expected to be built on this estate.

Sites for Scottish Housing Schemes.

The arrangements made by the Scottish Board of Health, by which the Lands Valuation Department are available for valuing sites in case of dispute, have proved very helpful. The Valuation Department has effected a reduction of 38 per cent. on the prices asked by owners of land—the adjusted price in these cases averaging £141 per acre. The total saving to the public up to the end of October was nearly £30,000, but this figure applies only to cases in which the owners asked a definite price. The department negotiated a number of other purchases in which no price was stipulated. The figures give an example of the practical economies which are being effected and will doubtless stimulate other local authorities to entrust negotiations for the purchase of sites to the district valuers as recommended by the Scottish Board of Health.

Newcastle.

Considerable progress has been made towards securing suitable sites for 5,300 houses. At Walker the Corporation have 112 acres on which dwellings are to be erected, and the Housing Committee are negotiating for further sites with a total area of 349 acres. Agreement has been arrived at in connection with sixty acres at the Pendower estate, and compulsory powers are being sought to acquire land at Heaton and at Fenham Nurseries. Work has been commenced on the Walker estate, and by the end of the year it is calculated there will be 1,300 finished houses. It is also intended that work shall proceed simultaneously at Pendower. The Newcastle scheme when completed will give 616 houses with living room, scullery, and two bedrooms; 2,051 houses with living room, scullery, and three bedrooms; 1,540 houses with parlour, living room, scullery, and three bedrooms; 617 houses with parlour, living room, scullery, and four bedrooms; and 308 flats with living room, scullery, and two bedrooms.

Peterhead Housing Scheme.

The house-type plans and lay-out plans have been approved by the Scottish Board of Health. In the full scheme provision is made for 246 houses, and seventy-eight are to be commenced immediately as a first instalment. Six house types have been adopted, to suit each house site so that every one shall have a sunny aspect. There will be twelve houses, with living-room and two bedrooms; twenty with living-room, parlour, and two bedrooms; four with living-room, parlour, and three bedrooms; twenty two-tenant houses, with a parlour, living-room, and bedroom on each of two floors · eighteen with living-room and three bedrooms, and four other four-apartment houses. Every house has a large scullery, with fixed tub, sink, and boiler. A bathroom also is provided in each case. Larder and cupboard accommodation has received special consideration. The houses are all to be semi-detached, with side access to the garden, and the houses will be built of granite from the granite quarries near by. The borough surveyor's department is constructing the roads, the proposal to employ direct labour having been approved by the Scottish Board of Health.

Trade and Craft

Change of Address.

The Ransome-verMehr Machinery Co., Ltd., have taken new offices at 14 and 16, Grosvenor Gardens, London, S.W. Telegrams: Vermehrico Vic, London." Telephone: Victoria 8060 (4 lines).

A Business Amalgamation.

We learn that an amalgamation has been effected between the old established house of Wilkinson, Heywood and Clark, Ltd., and Messrs. Pinchin, Johnson, and Co., Ltd. The combined, knowledge, experience, and scientific and material resources of the two businesses, is very considerable, and the whole organisation will be directed to rendering the best possible services of varnish, colour, paint, and kindred materials.

A Useful Wallet.

Simplex Conduits, Ltd., of Birmingham and London, manufacturing electrical engineers and wholesale electrical suppliers, have issued a very handy pocket wallet and diary for 1920. The diary, which is on sectional paper, and embodies a whole wealth of information of the greatest use to the electrical engineer, is encased in a well-finished black leather wallet containing compartments for letters, visiting cards, and stamps. The firm are to be congratulated upon the excellent finish and first-class workmanship of their Christmas gift. Mr. L. M. Waterhouse, A.M.Inst.C.E., M.I.E.E., is managing director of the company.

"P. C. Burton and Co."

We are informed that the name of the well-known firm of P. C. Burton and Co., Ltd., advertisers' service agents, has now been changed to "The St. James's Advertising and Publishing Co., Ltd." (incorporating P. C. Burton and Co., Ltd.). With the return of peace conditions this agency has been successful in extending its business to such proportions that the directors have felt that the time has come for a considerable development in the organisation to meet the needs of its growing clientele. The board of directors of the new company will consist of Mr. J. Inglis Ker, J.P., editor of the "King's Highway" (chairman), Mr. P. C. Burton (vice-chairman), Mr. Leslie Harwood and Mr. T. L. Scott (directors), and Mr. H. R. McLatchie (managing director).

Competition News

Cheltenham.

Cenotaph to be erected on the Bandstand site on the Promenade. Apply Mr. R. O. Seacombe, hon. secretary to the War Memorial Committee, Municipal Offices, Cheltenham. Closing date Jan. 28.

Winsford.

War Memorial to cost about £300. Apply Mr. J. H. Cooke, hon. secretary to the Design and Sites Committee, Winsford, Cheshire. Closing date Jan. 30.

Bromley.

Messrs. Josiah Gunton, F.R.I.B.A., and W. H. Gunton, A.R.I.B.A., of London, have been appointed architects for an important housing and garden city scheme at Bromley, Kent.

Bridgwater and Ilfracombe.

The Council of the Society of Architects requests members of the Society not to take part in either the Bridgwater or Ilfracombe Housing Competitions until the conditions have been amended to meet the requirements of the competition regulations of the Society.

Portishead.

The designs submitted by Mr. H. Stratton Davis, M.C., M.S.A., of 79, Northgate Street, Gloucester, have been placed first by the assessor, Mr. C. F. W. Dening, F.R.I.B.A., R.W.A. The second and third premiums were awarded to Mr. Percy Turner, A.R.I.B.A., 23, Bank Street, Bradford, and Messrs. J. C. Prestwich and Sons, Leigh, Lancs., respectively. Sixty-nine sets of drawings were submitted.

"The Ideal Home"

The newly-awakened interest in the home and its equipment has justified the production of a number of new magazines solely devoted to the domestic side of life; the most recent of these being "The Ideal Home," published by Messrs. Odhams, Ltd., a copy of the first number of which has just come to hand. There should be considerable scope for a magazine conducted on the lines of "The Ideal Home," whose policy is "to cater for the wide circle of the middle class. . . . Every matter of interest, from the designing of the house and garden to its final finishing touches, will be carefully explained and illustrated by experts in each branch." The first issue is one of considerable interest, containing as a leading feature a number of plates of domestic work—new and old—beautifully reproduced in photogravure. Mr. H. M. Luyken, A.R.I.B.A., describes and illustrates "A Thatched Cottage," and another article of architectural interest deals with the conversion of army huts into homesteads. Mr. H. E. Binstead gives some useful advice on the furnishing of the home, and Miss Cecile Frances Lewis writes informatively on "Practical Stencilling." Other articles include "Garden Chatter," "Decorative Shrubs," "Garden Making," "Poultry Notes," "Dog Breeding," "Electricity in the Ideal Home," etc. A large folding plate, showing plans, sections, and elevations of a thatched cottage is presented with the issue.

The Week's News from Far and Near

New Church for Billericay.

Billericay is raising funds to build a large new church as a war memorial.

Memorial for Long Sutton.

It is proposed to erect a granite memorial at a cost of over £1,000.

Institute for Burntwood.

It is proposed to erect a public institute as a war memorial.

Hythe's Memorials.

A monument and a recreation ground have now been chosen as the town's memorials.

New School at Croydon.

The Education Committee is acquiring by compulsory purchase a site for the erection of a large new elementary school.

Finchley Cottage Hospital.

A total of £9,000 has been received towards the extension of the hospital as a war memorial.

Factory for Waddon.

Proposals for the erection of another factory are being considered by the Town Planning Committee.

New Teignmouth Hospital.

A petition has been extensively signed in favour of acquiring Bitton House and grounds as a site for a new hospital.

A Dock for Padstow.

Proposals are being considered for the development of the harbour at Padstow, including an extension of the pier and the building of a wet dock.

New Chapel at Filey.

Over £4,000 is in hand for a new Wesleyan Chapel at Filey to replace the one destroyed by fire. Plans for the building are shortly to be prepared.

Architectural Exhibition at Bristol.

The architectural students at Bristol have held a display of their drawings simultaneously with a show of 200 drawings from the London students

Hospital for Merthyr Tydvil.

A site of ten acres has been presented to the town, and a promise of £20,000 has been made towards the erection of the proposed hospital.

Middlesex County Memorial.

It has been decided to erect a memorial in monumental form at Westminster. The authorities are willing to consider the question of its erection in the Canning enclosure.

New "Daily Mail" Offices.

New "Daily Mail" publishing offices are to be erected on the historic site of Messrs. Powell's glass works, situated at the corner of Tudor Street and Whitefriars Street, London. The architects are Messrs. H. O. Ellis and Clarke.

Proposed Hospital for Devon.

The local authorities in the Barnstaple region of North Devon are considering a proposal for joint action in the erection of a hospital. Barnstaple Council has agreed to contribute towards the cost of an architect's fees for a design.

Foundry Extension at Blackfriars.

An interesting trade extension has been carried out at Fry's Metal Foundry, Blackfriars. In spite of the difficulty of obtaining materials and labour the whole of the work of building and equipping the extension was done by the firm itself during 1919. The foundry, which supplies white metal used in the printing trade, is now equipped with all modern scientific and mechanical resources.

University News.

Mr. A. E. Henderson, F.S.A., R.B.A., has been appointed to give architectural instruction next term at the School of Architecture, University College. Mr. Chalton Bradshaw has returned to England from Greece and will shortly take up his duties as assistant.

Army Memorials.

It has been decided to erect monuments at Gheluvelt and on the Bourlon-Mœuvres ridge, and to place a memorial brass tablet in All Saints' Church, Aldershot, in commemoration of the deeds and the sacrifices of the officers and men of the 2nd Division.

Architectural Partnership.

A partnership has been entered into between Mr. Albert Schofield, M.S.A., of Southport, and Mr. Morrall Maddox, A.R.I.B.A., M.S.A., of Stoke-on-Trent. The firm will be known as Messrs. Schofield and Maddox, architects, with offices at Queen's Chambers, 379, Lord Street, Southport.

Reading Cenotaph.

A cenotaph, similar to that in Whitehall, is to be erected in the Reading Barracks in memory of the officers and men of the Royal Berkshire Regiment who fell in the war. Their names will be recorded on three or more vellum rolls, one to be enclosed in the cenotaph, and the others to be placed in the principal places in Berkshire.

Kingston-on-Thames War Memorial.

The East Surrey Regiment war memorial is to take the form of a memorial chapel in the parish church, Kingston-on-Thames, with gates at the southern entrance of the churchyard in the market-place. Old colours of the different battalions, regimental memorials, and a vellum book inscribed with the names of those who fell in the war will be placed in the chapel.

Substitutes for Timber.

The second edition of the Concrete Institute's list of structures and articles in which timber can be replaced by concrete or reinforced concrete is now available for the benefit of architects, engineers, land and building owners, farmers, etc. Copies may be obtained on application to the Secretary, Concrete Institute, Denison House, 296, Vauxhall Road, London, S.W.1.

British Chamber of Commerce for Vienna.

A British Chamber of Commerce has been constituted at Vienna, with offices at 7, Giselastrasse, Vienna. The following appointments have been made: Hon. president, Sir Maurice de Bunsen, late H.M. Ambassador; president, Hon. F. O. Lindley, H.M. High Commissioner; vice-president, Mr. O. S. Phillpotts, O.B.E., British Commercial Commissioner.

Southport.

The Southport War Memorial Committee have accepted for the war memorial, to be erected in London Square the design of Messrs. Grayson and Barnish, Liverpool, which was awarded the first premium of £300 by the adjudicator, Sir Reginald Blomfield, F.R.I.B.A. The memorial comprises an obelisk with flanking colonnades in which are memorial tablets to contain the local roll of honour. The number of names to be inscribed on the tablets is about 1,800.

Exhibition at Lille.

Under the auspices of the municipality of Lille an international exhibition is to be held in that city from May to October, 1920. The exhibition bears the title of "Exposition Internationale pour la Renaissance du Nord de la France" and is intended to demonstrate the best means of reconstructing the devastated areas. Exhibits will be divided into twenty-one main groups, including architecture, municipal organisation, development of national resources, and metallurgy. All countries are invited to participate.

Proposed Exhibition at Reval.

The Esthonian Trade Ministry intend to hold an exhibition early in 1920 (probably February), at which British firms are invited to exhibit. Space for stalls will probably be free, and every assistance will be given. Among the articles for which a ready market can be found in Esthonia are glass (until local factories work sufficiently), window glass, various rubbers and rubber goods, glue, iron, tin, copper, iron battens, steel wire rope, hemp ropes, sieves, nails, gimlets, files, chisels, hammers, saws, hatchets, etc., nets and sieve nets (gauze).

Catalogues for Antwerp.

H.M. Consul-General at Antwerp desires to obtain the supply of a larger and more varied collection of trade catalogues and samples. A large room is being set aside solely for the exhibition of British trade catalogues, etc. The catalogues received hitherto have been confined almost entirely to the engineering and building trades, but Belgium is now sufficiently restored to be interested in the whole range of British manufacturers. In the case of manufactures of small bulk, or of those which do not lend themselves to representation in catalogues, the receipt of small samples for exhibition would be welcomed. Catalogues, etc., should be posted direct to the British Consulate-General.

New London Building for Cox's Bank.

Contracts have been signed and plans are in hand for a new building, with frontage upon Pall Mall and Waterloo Place, London, for Cox's Bank, which now surrounds the quadrangle of Craig's Court, a secluded bit of eighteenth-century London. The new bank building is to occupy the whole site upon its eastern side, and is to be designed with the same façade as the buildings opposite, so that Waterloo Place may be symmetrical. The Pall Mall frontage will fill in the entire space between the Carlton Hotel and Waterloo Place, displacing Graves's Galleries and some shops, including the silversmith's at the corner known as Strongi'th'arm's. The site is unusually deep, extending from Pall Mall to Charles Street. Messrs. Keynes Purchase and Durward Brown are the architects, and Messrs. Holland and Hannen will erect the stone structure.

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing:

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR.	
Excavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
Labourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Navvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
Timberman, 1s. 9d. per hour.	In underpinning, add 120 per cent.
Scaffolder, 1s. 9d. per hour.	In rock, including blasting, add 225 per cent.
Watchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
Broken brick or stone, 2 in., 7s. per yd.	Headings, including timbering, add 400 per cent.
Thames ballast, 17s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Pit gravel, 16s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Pit sand, 17s. per yd.	Planking, 5½d. per ft. sup.
Washed sand, 18s. 6d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Screened ballast or gravel, add 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Do. 6 in. thick, 2s. 9d. per yd. sup.
Portland cement, 75s. per ton.	Puddling, 30s. per yd. cube.
Do. in small lots, ex London stock, 95s. per ton.	Cement concrete, 4.2.1, 52s. per yd. cube.
Lias lime, 59s. per ton.	Do. 6.2.1, 49s. per yd. cube.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in upper floors, add 12½ per cent.
Transport hire per day:	Do. in ferro concrete work, add 20 per cent.
Cart and horse, 26s.	Do. in underpinning, add 50 per cent.
3-ton motor lorry, £6.	Lias lime concrete, 40s. per yd. cube.
Steam lorry, 5-ton, £7.	Breeze concrete, 25s. per yd. cube.
Trailer, 30s.	Do. in lintols, etc., 4s. 6d. per ft. cube.
Steam roller, £4 10s.	
Water cart, 30s.	
DRAINER.	
Labourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 9d., 6-in. 4s., 9-in. 5s. 3d. per ft.
Timberman, 1s. 9d. per hour.	Cast-iron drains, jointed in lead, 4-in. 8s., 6-in., 14s., 9-in. 25s. per ft.
Bricklayer, 1s. 11½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. per hour.	
Watchman, 6s. 6d. per shift.	
Stoneware pipes, tested quality, 4-in. 2s. 11d., 6-in. 4s. 6d., 9-in. 7s. 9d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 3s. 9d., 6-in., 5s. 6d., 9-in. 8s. per yd.	
Portland cement and sand, see Excavator above	
Lead for caulking, 42s. per cwt.	
Gasket, 1s. 8d. per lb.	
BRICKLAYER.	
Bricklayer, 1s. 11½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £42 per rod.
Labourer, 1s. 8d. per hour.	Do. in cement do. £45 per rod.
Scaffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
London stocks, 83s. per M.	Do. in blues, add 320 per cent. per rod.
Flettons, 65s. per M.	Do. circular on plan, add 12½ per cent. per rod.
Staffordshire blue, 190s. per M.	Facings, fair, 3d. per ft. sup. extra.
Firebricks, 205s. per M.	Do. picked Flettons, 4d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £24 per M.	Do. picked stocks, 6d. per ft. sup. extra.
Do. headers, £23 10s. per M.	Do. salt, white, or ivory glazed, in areas, 5s. 6d. per ft. sup. extra.
Colours, extra, £6 per M.	Struck pointing, 4d. per ft. sup. extra.
Seconds, less, £1 per M.	Tuck pointing, 10d. per ft. sup. extra.
Cement and sand, see Excavator above.	Weather pointing, 4d. per ft. sup. extra.
Lime, grey stone, 58s. per ton.	Granolithic and cement paving, 1-in., 4s. 6d. per yd. sup.
Mixed lime mortar, 23s. 6d. per yd.	Do. 1½-in., 5s. 3d. per yd. sup.
Damp course, in rolls of 4½ in. 3s. 6d., 9 in. 6s. 3d., 14 in. 8s. 6d. 18 in. 11s. per roll.	Do. 2-in., 6s. 3d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 10d. per ft. sup.
	Do. vertical, 1s. per ft. sup.
	Slate damp course, 1s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 9s. per yd.
	Do. skirting, 6-in., 1s. 3d. per yd.
MASON (INCLUDING SLATE).	
Mason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3d. per ft. cube.
Do. fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
Scaffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
Portland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 2d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 5d. per ft. cube.	Joints, arch, 2s. per ft. sup.
Bath stone, 2s. 10d. per ft. cube.	Do. sunk, 2s. per ft. sup.
York stone, 7s. 3d. per ft. cube.	Do. do. circular, 2s. 8d. per ft. sup.
Do. paving, av. 2 in., 7s. 6d. per yd. sup.	Circular-circular work, 10s. 3d. per ft. sup.
Mansfield red, 6s.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run.
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone, 25 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
(Usual trade extras for large blocks.)	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 7d. per ft. sup
	Rubbed rounded nosing to do. 6d. per ft. lin.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, zinc nails, Portmadoc or equal: Ladies 58s., Countess 67s. 6d., Duchess 70s. per square.
Tiler, 1s. 10½d. per hour.	Westmoreland, in diminishing courses, 135s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 70s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 4s. 3d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quailty, per M.: Portmadoc, Ladies £14, Countess £25, Duchess £33.	Double course at eaves, 9d. per ft. approx.
Clips, lead, 9d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 80s. per square.
Clips, copper, 2s. 3d. per lb.	Do. machine-made do. 72s. per square.
Nails, compo, 47s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 121s. 6d. per M.	
Machine tiles, 112s. per M.	
Westmoreland slates, large 247s. per ton, Peggies 187s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 11s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 11s. 6d. per ft.. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 11s. 10d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per ft. cube.
Archangel:	Sarking felt laid, 1s. 6d. per yd.
1st £52, 2nd £49 10s., 3rd and U/S. £47 10s. per std., equals	Centering for concrete, etc., including horsing and striking, 70s. per sq.
1st 6s. 4d., 2nd 6s., 3rd and U/S. 5s. 9d. per ft. cube.	Slate battening, 23s. 6d. per sq.
Boards, 1st £53 10s., 2nd £51, 3rd and U/S. £48 10s. per std.	1-in. deal gutter board on firring, 92s. 6d. per sq.
Do. F.E., 3rd and U/S £43.	1¾-in. molded casements in 4 sq., glazing beads and hung, 3s. per ft. sup.
Battens, 3rd and U/S. £38.	2-in. do. do. 3s. 6d. per ft. sup.
Yellow: 1st £62, 2nd £51, 3rd and U/S. £47 10s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 3d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 3s. 3d. per ft. sup.
Boards, planed, U/S. £46 per std, equals 47s. per sq. of 1 in.	Do. do. do. 1½-in., 2s. 6d. per ft. sup.
Flooring, P.E., U/S. 42s. 6d. per sq. of 1 in.	Do. do. molded b.s., 2-in., 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 43s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. per ft. sup.
Wainscot oak, 3s. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 3s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 3s. 9d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 8s. 6d., 1-in. 10s. 6d., 1¼-in. 13s. 6d. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. per ft. sup.
	2-in. deal strings, fixed, 3s. 9d. per ft. sup.
PLUMBER.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 55s. per cwt.
Mate or labourer, 1s. 8d per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 1s. 6d. per ft.
Lead, milled sheet, 43s. 6d per cwt.	Do. ¾-in., 1s. 10d. per ft.
Do. drawn pipes, 44s. per cwt.	Do. 1-in., 2s. 4d. per ft.
Do. soil pipe, 48s. 6d. per cwt.	Do. 1¼-in., 2s. 9d. per ft.
Do. scrap, 25s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 7s. 6d. per ft.
Copper, sheet, 2s. 7d. per lb.	Do. 3-in., 8s. 4d. per ft.
Solder, plumbers, 1s. 4d. per lb.	Do. 4-in., 11s. per ft.
Do. fine, 2s. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 3d. per ft.
Red and white lead, 7d. per lb.	Do. 3-in., 2s. 7d. per foot.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 3d. per ft.
L.C.C. soil, 2-in. 4s. 10d., 3-in., 7s. 3d., 4-in. 8s. 4d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 9d. per ft.
R.W., 2-in. 3s. 10d., 3-in. 5s. 4-in. 6s. 2d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. per ft.
Gutter, 4-in. H.R. 3s., 4-in. O.G., 3s. 4d. per yd.	Fixing only:
	W.C. pans and all joints, P or S, and including water waste preventers, 42s. each.
	Baths only, with all joints, 33s. each.
	Lavatory basins only, with all joints on brackets, 25s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	
Glass:	Glazing, in putty, clear, 21 oz. 1s. 4d., 26 oz. 1s. 5½d., 32 oz. 1s. 7d. per ft.
Clear, 21 oz. 9½d., 26 oz. 10½d., 32 oz. 1s. per ft.	Glazing in beads, 21 oz. 1s. 2d., 26 oz., 1s. 3d., 32 oz. 1s. 4d. per ft.
Cathedral, ordinary, 9d. per ft.	Patent glazing in rough plate, normal span, 1s. 10d. to 2s. 2d. per ft.
Do., double, 1s. per ft.	
Rough plate, ⅛ in. 5d., 3-16 in. 5½d., ¼ in. 6d. per ft.	
Linseed oil putty, 33s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 3s. 9d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. per yd.
Chalk lime, 60s. per ton.	Do. vertical, 3s. 3½d. per yd.
Hair, 30s. per cwt.	Render, on brickwork, 1 to 3, 3s. 9d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 4d. per yd.
Lime putty, 4s. 9d. per cwt.	Render, float, and set, trowelled, 4s. per yd.
Hair mortar, 43s. per yd.	Render and set in Sirapite, 3s. 7d. per yd.
Fine stuff, 44s. per yd.	Do. in Thistle plaster, 3s. 2d. per yd.
Sawn laths, 3s. 6d. per bdl.	Extra, if on lathing, any of foregoing, 6d. per yd.
Keene's cement, 84s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9d. per ft. lin.
Sirapite, 60s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3d. per ft. lin.
Do. fine, 61s. 6d. per ton.	
Plaster, 57s. per ton.	White glazed tiling set in Portland and jointed in Parian, 33s. per yd.
Do. fine, 58s. per ton.	
Thistle plaster, 56s. per ton.	
Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 10d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 3d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. per yd. sup.
Genuine white lead, 78s. per cwt.	Do. subsequent coats, 10d. per yd. sup.
	Do. enamel coat, 1s. 6d. per yd. sup.
Linseed oil, raw, 10s. 3d. per gall.	Brush grain and 2 coats varnish, 4s. per yd. sup.
Do. boiled, 10s. 6d. per gall.	Figured do. do. 7s. 6d. per yd. sup.
	French polishing, 1s. 5d. per yd. sup.
	Stripping old paper and preparing, 2s. per piece.
Turpentine, 9s. 9d. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
Liquid driers, 19s. 6d. per gall.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Distemper, washable, in ordinary colours, 52s. per cwt.	
Petrifying liquid, 3s. 3d. per gall.	
Double size, 6s. 4d. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping, 7d. per lb.	
Varnish, hard oak, 18s. per gall.	
Do. Outside do., 18s. 6d. per gall.	
Do. Copal, 21s. per gall.	
Do. Flat, 21s. per gall.	
Do. Paper, 21s. per gall.	
French polish, 23s. 9d. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £46 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £34 per ton.
Erector, 1s. 10d. per hour.	Do. in compounds, £38 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £37 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 56s. per cwt.
Mild steel in British standard sections, £30 per ton.	Do. in light railings and balusters, 75s. per cwt.
Cast-iron, heavy,	Fixing only corrugated sheeting, including washers and driving screws, 1s. 3d. per yd.
Do. Light,	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £37 per ton.	
Do. Galvd., £48 per ton.	
Corrugated sheets, black*	
Do. Galvd., £48 per ton.	
Driving screws, galvd., 5s. 3d. per grs.	
Washers, galvd., 1s. 9d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	

Weekly Housing Report

The report issued weekly by the Ministry of Health states:—

New schemes submitted to the Ministry during the week ended December 20 numbered 138. The total number of schemes submitted by local authorities and public utility societies is now 7,748, comprising about 57,250 acres. The schemes approved now number 3,105, comprising about 29,550 acres. Fifty-eight lay-out schemes were submitted, and sixty approved during the week, making the total number of lay-outs submitted 1,909, and the numbers approved 1,265. House plans representing 3,511 houses were submitted during the week, and plans for 3,377 houses approved. The total number of houses represented in the plans submitted is 78,818, and in the plans approved 63,362. Tenders for 20,513 houses have been submitted, and approval given to tenders for 16,940.

Details of local authorities' schemes dealt with during the week are as follows:—

Building Sites.

Schemes submitted.—The number received from fifty-eight local authorities was 136, comprising 571 acres, and bringing the total number of schemes promoted by local authorities to 7,658, covering approximately 54,850 acres.

Schemes approved.—The number of schemes approved was 153, bringing the total number approved to 3,136, comprising about 28,900 acres.

Lay Outs.

Schemes Submitted.—Fifty-eight schemes were submitted by forty-two local authorities bringing the total number of schemes submitted to 1,864.

Schemes Approved.—Fifty-eight schemes promoted by forty-three local authorities were approved, bringing the total number of schemes approved to 1,235.

House Plans.

Schemes Submitted.—Schemes representing upwards of 3,500 houses were submitted by forty-five local authorities. The total number of schemes submitted represent 75,976 houses.

Schemes Approved.—Schemes representing some 3,365 houses were approved. The total number of schemes approved represent 61,785 houses.

Our Small Advertisements

A number of architectural vacancies are announced this week.

A chief architectural assistant is required for the Housing and Town-planning Department of the Borough Surveyor's office at Bridlington.

The Bilston Urban District Council require a chief architectural assistant, a junior architectural assistant, and a clerk of works for their housing scheme.

Vacancies are announced in the Housing Architect's Department of the Newcastle City Council for an architectural assistant and an architect's draughtsman.

Mr. Gronwy Griffith, architect, of Denbigh, North Wales, has a vacancy for a junior assistant.

An architect is required to proceed to the East to carry out a commercial building in reinforced concrete.

A consulting engineer requires a fully competent man to take entire charge of the design of reinforced concrete constructional work.

A qualified architect, University graduate, who had pre-war practice, wishes to open a London engagement as assistant with a view to partnership.

Church War Memorials

The Bishop of Chelmsford, writing to Essex incumbents and churchwardens reminding them to apply for a Faculty before placing war memorials in churches, states: "Sometimes people thought it unnecessary to apply for Faculties. In going about Essex as he did, sometimes he got very angry to find that incumbents and churchwardens had absolutely no knowledge at all with regard to architecture. Somebody had come along who had wanted a war memorial erected in the church. Something had been taken away which it was absolutely impossible to replace, and something was put up in its place which had spoiled the architecture of the church. That had been done over and over again, and it was to prevent it that Faculties should be applied for. Incumbents and churchwardens were only the trustees of the church building, and they had no right to alter anything at their own sweet will that possibly somebody in a thousand years' time would not like."

Wakefield Housing

The Corporation have acquired land on four separate estates upon which to erect houses. It is estimated that 2,000 houses are required. On the Elm Tree Street site, building is in an advanced state, the walls of all the sixty-four houses to be erected there being above ground, ten being already roofed. It is expected that they will be fit for habitation early in the spring; at Alverthorpe, where forty-six houses are to be built, the provisional approval of the Housing Commissioner has been given to the lay-out and type plans. The provisional approval is also expected shortly to lay-out plans for 489 houses at Portobello.

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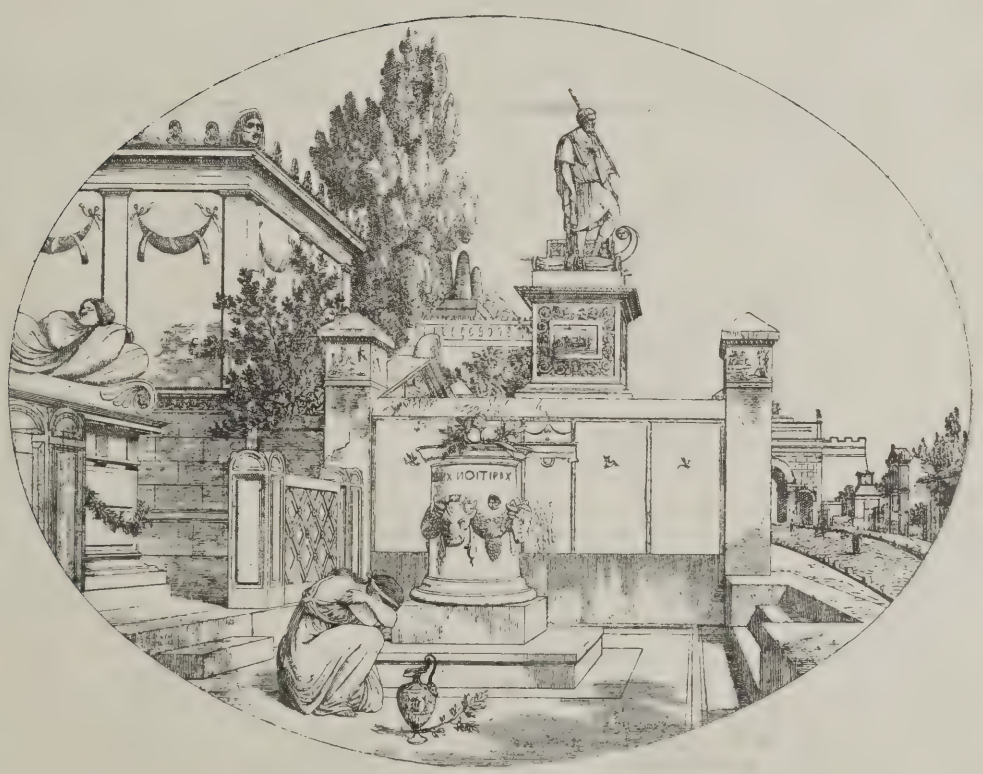
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



COMPOSITIONS BY BOUCHET (XI.).

27-29 Tothill Street, Westminster, S.W.1.

The Boatswain's Tomb, Newstead Abbey

The eighteenth century furnishes an infinite variety of architectural forms suitable for adaptation to modern war memorials. The Boatswain's Tomb, with its well-proportioned pedestal and urn on a stylobate of four steps, provides an appropriate suggestion for a modern cenotaph.

THE
ARCHITECTS' JOURNAL
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On the Brightening of London

A TIMELY appeal has been made by Professor Adshead for the brightening of London. The "gay capital," as we know it to-day, is gay only in spirit. In that sense it is bright enough—perhaps even excessively so. Yet its streets are dull. The colour of its buildings is too well attuned to the colour of its fogs. Within a month or two a new building puts on an ancient coat. Here and there we clean the outward walls with steam, and for a week or two the white stone provides a welcome contrast to the all-prevailing dinginess. But the freshness quickly passes. Fighting the fog and the smoke-laden air seems a hopeless task. If all the buildings of London could be protected from this contamination our streets would look brighter and more attractive. Clean stone and brick are not unpleasing. That would be one way of improving the town. But it means mainly replacing steam-power by electric, and an order to all factories to consume their own smoke. These orders would have to apply everywhere and to everybody in the capital, and it would take years to do it. We must then seek for other ways of adding gaiety to our streets.

Professor Adshead mentions the possibilities of window-boxes and front gardens, the painting of shops, fences, and gates in refreshing colours, a judicious beautifying of open and waste spaces, and a proper regulation of posters on the hoardings. All these suggestions are both practical and advisable and easily within the power of the people. Many Continental cities long ago led the way in these directions. What, for example, could be more pleasing—and refreshing—than the fountains gaily decked with flowers and the painted statues in the streets of Berne? Would it not be possible in London to put up fountains on the Swiss pattern in great centres of traffic like Oxford Circus, Holborn Circus, the Marble Arch, Hyde Park Corner, and so on? Why could we not grow flowers on the fountains in Trafalgar Square and replace the stones with verdure? The flower-beds round the Queen Victoria Memorial are one of the sights of London—and not the least of its glories. The flower-shops in Regent Street always give a vitalising glow of colour to that part of the thoroughfare. If it can be done, by all means let us make London a "City of Flowers." By no other single means—and by no simpler—could the capital be brightened more beautifully or more refreshingly.

These are methods that seem easy of accomplishment and presumably cheap. But what about the buildings? Are there no means of brightening them? We think there are, and we believe that if the people of London could only be awakened to the need of brighening the City and the West End—to say nothing of the suburbs—our architects would gladly meet the demand. Glazed tiles, mosaics, and frescoes may add beauty and distinction, as well as a dignified cheerfulness, to a well-designed building. They would suffer, of course, from the smoke and the fog, but they could easily be washed, and, in any case, they would be brighter than the bare stone or brick. Glazed tiles offer to the architect of imagination a wide variety of use, as Mr. Halsey Ricardo, for instance, has abundantly proved at Chelsea and elsewhere.

Mosaics are always attractive if well designed and well executed. There is a good example at the Horniman Museum, though the colours are too faint for outside decoration. Frescoes, we are afraid, are largely a lost art. There are ways, too, by which architects could help. Why should we not, for instance, have buildings with floral balconies? And why cannot the tenants of buildings with classical columns on the first floor place orange trees or evergreens in between the columns?

The use of flowers and of greenery, of delicate tints for shop fronts, of warm colours for house doors and windows has a distinct value. Even the dear old pillar-boxes which the Post Office people so happily painted red have helped to brighten our streets. Bright awnings and gilt and bronze porticoes and railings, gold-green tiles, and brightly hued marbles all help to give a touch of richness and warmth. Artistic signs, such as are to be found in Lombard Street, also add colour and charm. Even the pavements could be made contributory to the scheme. A skilful combination of red brick and white stone is very effective. That any municipal body could be persuaded to try it is another matter. He would be indeed an optimist who thought so. Yet it might be possible to get the London County Council to brighten their schools by the use of flowers and lawns and of window-boxes.

Nor does there seem any reason why the tramway cars could not be more attractively decorated, except that to preach æsthetics to local bodies is as hopeless as trying to find the message or the meaning of a vorticist painting. To argue that the proper use of colour is a civic duty is even yet to be in advance of the times; at any rate, as far as the majority of people is concerned. And this although colour is now being used in the treatment of disease, and has been proved to be of great value in its effect on the nervous. It is at least beyond dispute that colour, wisely chosen and harmoniously used, soothes and cheers if it may not consciously charm. London badly needs a colour tonic. In these dark days cheerfulness is a national asset. Professor Adshead, in pleading for the brightening of London, is serving a great and a patriotic purpose. It is no mere æsthetic whim. It is so valuable a movement that all who seriously aim to make life a better and more cheerful thing should give it strong support. Will Professor Adshead plead in vain? We hope not.

CROSSLEY DAVIES.

[It will be recognised that the series of interesting suggestions put forward are in every instance rational and practicable, involving but slight expense. There is really no reason why London's colour scheme should be based on a dirty drab. The sedate and successful experiment with the Athenæum Club should convince the fastidious that tint can be applied with entire good taste. —EDS. A.J.]

Notes and Comments

The French Hostel in London

BRITISH architects will most cordially welcome the French School in London—the "Maison de l'Institut de France à Londres." That it will have its first home in a house built by Norman Shaw is the next best thing to having a building specially designed for it, preferably (for amity's sweet sake) by a French architect. That, we trust, will come in good time. In the meantime, we cannot repress our delight at the compliment implied in seeking in London a *pied-de-terre* for French art-lovers; for does it not imply an assumption that our people and our collections, if not our achievements, in art are, at all events, not bad to live with? As time goes on, the steady and continuous coming and going of French connoisseurs will have so sensibly exalted our insular taste as to make our works as well as our collections much more worthy of the honour that is now bestowed upon them. We trust that the delicate regard for courtesy which distinguishes the French before all other races will not prevent the candid æsthetic criticism of which we are so much in need. Socially as well as educationally the French School in London cannot fail to act as a powerful antidote to our excessive insularity, diffusing among us some of the lightness and elegance in which we believe ourselves to be notoriously deficient. In return, though we dare not hope to discharge in full our long outstanding debt to them in art, science, and literature, we shall assuredly seek occasions to convince them that we are able and determined to vie with them in the generosity of fraternal sentiment that brings them hither.

Rival Claimants for St. Sophia

Hagia Sofia, or St. Sophia, comes into prominence on a question of right to its possession. The Vatican contends that the famous basilica was built for the Catholics, who possessed it when Mahomed II. conquered Constantinople, and that it should be given back to them. On the other hand, the Greeks claim that they have the better right to it because they form the majority of the European population in Constantinople. Into the merits of the rival claims it is not necessary to enter; they are of no architectural importance, unless one claimant would be more likely than another to be a prudent custodian of this precious gem. Its re-conversion to Christian uses should not, in any case, involve irreverent treatment of a fabric than which the world can show none more gloriously beautiful.

Wolsey's Gate, Ipswich

A threefold threat hangs over the venerable gateway known as Wolsey's, at Ipswich. It is menaced with dissolution by decay, inferentially with demolition as a dangerous structure, and with removal to another site. The first-named danger seems imminent, the second is real though merely conjectural, and the third is abhorrent to sentiment. All will yet be well if the Suffolk Archæological Society, the High Steward of the Borough of Ipswich, and their supporters, can agree on what shall be done, and can raise the necessary money for the work. It is surprising to learn that this relic of the sixteenth century—Wolsey built it about 1527—is private property, and that there are serious misgivings as to whether there is any method by which it can be preserved without destroying its character. It should certainly be acquired for the public, to whom it could be dedicated for ever in serene confidence if it were carefully treated by the grouting machine process, which, applied under expert supervision, would preserve it without disfiguring it. In Ipswich there is nothing that is better worth preserving—not less for its historical associations as the last remaining fragment of the college to which Wolsey retired in disgrace ("Father Abbot, I am come to lay my bones among you"), than for its interest as a specimen of the building method of his period. It consists of hollow brickwork casing, filled in with rubble, a form of construction that, once very common in England, was doubtless introduced by our Roman invaders. In any attempt to remove it, such work would crumble hopelessly; but, even if the structure survived removal, the sentiment would evaporate. It would cling, however, to the grouted gate left *in situ* and strengthened from within.

Where Builders Lead

Bulletin No. 2 of the Joint Industrial Councils shows the building industry in a very favourable light, as having taken the lead in the new movement for the reorganisation of industry. The interim report of the committee for the industry was, it will be remembered, a contested document, to which a minority report was opposed on certain vital points; but recovery from the first shock of novelty having been survived, the dissentients will see the wisdom of remaining firm only in the demand for equitable compromise. Opposition to fresh proposals merely because they are unfamiliar is a relic of an attitude of mind that the war has rendered obsolete, and it may be confidently affirmed that the building industry, which led the way towards industrial reform, and anticipated in actual practice the Whitley recommendation of joint industrial councils, will not be the first to turn back. There is substantial agreement on all the fundamental and humanitarian issues—as, the decasualisation of labour, provision against unemployment, safety and welfare work, and so forth; but differences of opinion naturally arise on such contentious issues as industrial control. These can be amicably and equitably adjusted if they are approached in the right spirit and handled in the right way.

Steel Trade Troubles

The strike of steelworkers in the United States having come to an end (on January 8th), there is the more reason to deplore the result of the ballot of the iron moulders in this country, who, by a majority of 7,087—16,718 against 9,631—decided not to accept the employers' offer of an increase in wages of five shillings a week, the men having asked for an increase of fifteen shillings. This announcement, appearing simultaneously with the cablegram from America last Friday, raises serious misgivings as to the disadvantage at which our industries will be placed by both events. The stoppage of the American strike and the continuance of ours will greatly increase the heavy handicap with which our steel trade is penalised in competition with the States, and the protracted hold-up of British industries dependent on steel—including, of course, to no mean extent, building construction—is a disaster from which recovery will not be easy.

More Garden Suburbs

Hitherto the metropolitan boroughs south of the Thames have not been distinguished for civic enterprise. They are now waking up. Woolwich and Greenwich are talking about arterial roads and garden suburbs, while the three contiguous boroughs of Bermondsey, Deptford, and Lewisham have been nibbling at a joint scheme for a rather formidable undertaking—estimated to cost £4,570,000 for 5,400 houses on 450 acres. Bromley also—Bromley in Kent, be it noted—has under consideration an ambitious scheme. Altogether, the southern side is

looking up, and in the near future there is to be tremendous building activity where hitherto green pastures and golf links have held the field. As transit must follow hard upon building, tramway extensions in the south-eastern district are already in hand, and anticipation of introducing the tube system there is expressed so commonly and so constantly as to seem based on reasonable probability. Soon London will be completely surrounded by a ring of garden suburbs, with arterial roads and means of transit radiating like spokes from a hub. But if town-planning principles are to be fairly satisfied, all this local activity should be centrally controlled.

Housing About to Begin!

Dr. Addison's explanation, last Friday, of the procedure for obtaining the State building subsidies marks almost the first definite stage in the history of the housing movement. At length "initial inertia" has been sufficiently overcome to give housing a start. Dr. Add son was happy in being able to report a widespread demand for the grant, private persons as well as builders applying for it; but probably he would be the first to acknowledge the assistance that he has received from the organised builders in finding his way out of the morass. If, as we all hope, the subsidies of £160, £140, and £130 per house are a sufficient inducement to builders to take up the work with energy and success, the organised builders will have a double claim to our congratulations; and if, as we believe, they suggested the subsidy scheme, it is up to them to see it through, as we believe they will.

Redemption of the Surrey Side

In last week's "Comments" we touched briefly upon the suggestion thrown out by the Chairman of the Higher Education Sub-Committee of the L.C.C., that the projected school for technical education for the printing trades might well be erected on the Surrey side of the Thames. The theme deserves some further development. From the time of Wynkyn de Worde, Caxton's journeyman, who set up in business for himself in Fleet Street, printers have congregated thickly in this region; but there is no longer any apparent reason for this overcrowding. It is convenient for distribution that the newspaper offices should not be so far apart as to interfere with quick collection; but with regard to general printing, the trend for years past has been towards decentralisation, and this movement, which was greatly accelerated by the introduction of quick traction, has favoured the erection of many fine printing offices in the suburbs and in the country. One of these, that of Messrs. W. H. Smith and Son, in Stamford Street, on the south bank of the Thames, is reputedly the finest printing office in the kingdom. Its completion a few years ago, when we gave a series of views of the building, was a notable event in the history of the south side, which was then sadly in need of the impetus to good building which it thus received. Redemption of the southern bank, begun in real earnest when St. Thomas's Hospital was erected there, and advanced mightily when the site of the County Hall was chosen, will be brought appreciably nearer fruition if a fine new central school of printing—London's chief industry—is erected on the south side; and the town-planning improvement implied must be backed up by a building that shall be as noble in its dimensions as in its design. For it will house a noble craft—which, indeed, the disciples of old Caxton delight to dignify as "the art preservative of arts." Should not the Mistress Art do her best for it? If London University were built on the south side, and the printing school were the forerunner of other schools for the arts and crafts, South London would become no mean rival to South Kensington, and it would not be difficult to persuade the railway directors to put their terminus on the Surrey side, thus solving the Charing Cross town-planning problem as the preponderance of architectural opinion would have it solved.

A Certain Liveliness in Education

A debate on architectural education had become imperative. We are to have it on February 16, when Mr. Paul Waterhouse will read a paper on the subject at the Royal Institute. The engaging personality of the lecturer, and the supreme importance of his thesis, will ensure a large assembly. An animated and illuminating discussion should follow, and out of it should spring important practical developments. Whoever is to be chairman on the occasion must be relentless in keeping the speakers to the point. With so much need for strenuousness in action, time must not be wasted on superfluous talk, of which usually the chief effect is to confuse the issue. With such contentious issues to the fore, one may expect and condone a certain liveliness; which is always more fruitful, as well as infinitely more entertaining, than dull prolixity. It is extremely fortunate that the opening of the discussion should have fallen into the hands of so brilliant and graceful a stylist as Mr. Paul Waterhouse, who will certainly strike the right keynote, whatsoever discords may follow.

"Architectural Decadence"

The public interest in architecture grows apace. In so unlikely a source as the "Medical Press" there have been editorial lamentations "over the decadence in this country of architecture, and of art in general." They are as the lamentations of Jeremiah. Machinery is destroying our sense of beauty; we are governed more and more by purely utilitarian aims, less and less by considerations of beauty. The multiplication of tubes, kinemas, night-clubs, erotic and neurotic literature and of motor craft on and above the earth, have already led to the general worship of the coarse and vulgar, and that way madness lies. Of course the indictment is overdone. But the sons of Jeremiah are a useful tribe, and all down the ages it has been wise to take their advice—with a pinch of salt. The truth is that coarseness and vulgarity are rather less prevalent to-day than they were in the days of our grandsires, but are more in evidence because of the present greatly enlarged facilities for expression. At any rate, the assumption of "architectural decadence" as a consequence of the agencies enumerated by our medical contemporary is purely gratuitous. Nevertheless, this "mixture as before" may serve as a tonic draught to the architect, fortifying him against the inroads of decadence.

Re-planning Charing Cross

Mr. John Murray, F.R.I.B.A., F.S.I., published in "The Times" of January 7 a sketch plan and perspective view of suggested improvements in the Charing Cross area. It is, of course, one of many essays on the same subject; and although it cannot be supposed to have the remotest chance of adoption in its entirety, one or two features may ultimately be incorporated in an accepted scheme, if ever we get to that stage. In any case, it is of some value for its educative effect, even where it shows what is good for avoidance—the three overpowering monumental domed buildings, for instance, which are to supersede Charing Cross Station and obliterate not only Villiers Street, of which we should be well rid, but also the Adelphi, which we cannot spare. For the destruction of the Adelphi, which Mr. Murray would greatly regret, and for which he feels that some apology is needed, practical reasons are advanced—that "the buildings themselves were falling into decay, and were mostly built on brick arches, which had a limited life." This is calculating on contingencies that we hope are rather remote; and surely the anticipated decay is not hopelessly irremediable. So unfortunate a suggestion as the wholesale destruction of the work of the brothers Adam would meet with opposition strong enough to kill a much better scheme.

Architectural Causerie

IN the domain of art, as in that of literature, the present is an age of criticism and not of action. Hence the grumblings and mutterings that in certain quarters, both professional and public, are constantly directed against scholarship in building. In so far as art is concerned, the peoples of England, France, and America exist to-day in an artificial atmosphere. To the finite mind this condition may seem deplorable, but to those whose angle of vision ensures a good view of events, past, present, and future, a certain comfort accrues. In the first place, the nations are so enraptured with the enormous advances made in the sciences as to be content to view Art in retrospective (I am conscious of using this word in a novel sense—perhaps I should or may say retro-perspective) to acclaim past achievements and to seek to emulate them.

* * * *

Since the beginning of the nineteenth century the gathering-in of archæological knowledge has resulted in an enormous harvest of ideas. No wonder the mere spectator is amazed at the seeming confusion of the mass, while even the accomplished artist hesitates to contribute to the pile, such is his uncertainty. Some there are who say, "What is the use of attempting anything unless we can immediately improve upon the works of those who have preceded us? There is nothing to be gained by indulging in jeremiads or idle speculation. The fact is that architecture is a highly specialised art whatever may be urged to the contrary. Its main trend is governed by the conditions of the moment, the task of interpretation being left to various coteries whose units may or may not think and act collectively. If architecture were not innately esoteric, its very mystery half-revealing the truth—did it not combine scientific knowledge, logical reasoning, and the crystalisation of abstract ideas, it would not rise above mere building.

* * * *

To discuss architectural style is akin to entering upon an argument on the nuances of the religious dogma. Style talk deals with subsidiary contentions. The main issue is, Do we or do we not believe that which we profess? In the past century the practice of building has developed in two main directions—namely, (1) specialised engineering, including railroads, bridges, dams, docks, and harbours; and (2) the time-honoured system of devising and shaping public buildings, churches, factories, houses, and town development. As a result, two distinct classes of professional men, and two distinct classes of contractors, have come into being. This tendency is general. It is seen not only in England and in France, but also in America, where the status of the architect is officially understood. There are of course occasions when it becomes necessary for specialists to combine in order to secure the best results. Under such conditions it is nearly impossible to determine what "style" implies. One of the evils of the present mechanical age being its brutality, refined architecture exists merely on sufferance. The type and strength of communal spirit essential to the development of tidy and ordered building are lacking. Small wonder, then, that architecture is kept alive by artificial means.

* * * *

Despite the complexity engendered by the chaotic conditions of to-day, the love of luxury, of meaningless display, of cheap amusements, and despite the seeming callousness of the populace, there is without doubt a growing communal interest in art, and this interest is fostered by architects, and encouraged by an appreciative section of the community. If the education of an architect is never finished, if the training of the craftsman continues to be neglected, how is it possible to force upward the general level of taste? France above all countries possesses a national tradition. Inherited in the first place from Italy, this tradition has survived to the present time, although, in its latest manifestations, it leaves much to be desired. England receiving the tide of the Renaissance at a much later period, the effects continued almost to the end of the nineteenth century, and this despite the battle of the styles and other dissensions. America, the most enterprising and modern of the nations, has proved, strangely enough, the most conservative in matters architectural.

* * * *

The direction in which architecture in this country can be best advanced lies beyond question in the study of conception and planning to meet specific conditions. It is a mistake to talk about "styles" at all, and it is an error of egregious proportions to mention the word "revival." We are apt, in the heat of discussion, to overlook the existence of fundamental principles of composition, to underestimate the laws of rhythm, mass, and fitness; very few artists have a correct idea of the true meaning of "character."

* * * *

For the past thirty years we have been treated to a series of experiments, and it may be said with confidence that each of these has had some beneficial result. In the first place, public opinion has become educated to a clearer recognition of the value of traditional methods in the design of cottages and small houses; secondly, the theory of civic design has become more widely known; thirdly, we are at last aware of our shortcomings as planners. If we study the vernacular tradition of any country, no matter what century we select, we shall find comparatively few buildings of the first class that satisfy in every particular the requirements they were designed to meet, and criticism of the period selected turns on these particular buildings, and not upon the mass production.

* * * *

In the year before us there lies ample scope for our activities as architects; vilification of this or that style will not help matters in the least. The variety of religious beliefs does not tend to weaken the whole theory of religion. On the contrary, it strengthens and augments universal opinion. Architecture is bred in the senses and understanding; it connotes a knowledge of humanity, a cosmopolitan interest, the very widest possible view of past experience and achievement, and a keen desire for healthy competition. AERO.

MEDALLION OF G. F. HANDEL.

(*See Article "Sir John Soane as a Collector," page 43.*)

Window to the Staircase at Sutton Court, near Chiswick

This three-light, or Wyatt, window is typical of the delicate style of work that prevailed during the latter part of the eighteenth century. Its charm is due to admirable proportions and refined detail, the frieze being carved with rosettes, flutings, and a dentil band, and surmounted by a carved and glazed lunette.

Sir John Soane as a Collector

By ARTHUR T. BOLTON, F.R.I.B.A., F.S.A., Curator, Sir John Soane's Museum.

"I PERCEIVE by the Papers You gave the Enormous sum of *Five Hundred Guineas* for a paltry MS.—how much more useful to Society and valuable in the eyes of Your Creator, had You given that sum to relieve the distresses of the Poor—these extravagant Wickednesses—will rise up against You on a Death bed powerfully—beware, repent in time. —Yours truly, AMICUS."

Such was the friendly encouragement extended in April, 1832, to Sir John Soane at that moment in the formation of his priceless collection when he was contemplating its final establishment by the gift recorded in his private Act of Parliament (1833).

What would the writer say to MSS. that change hands at a thousand pounds a page? His wail is a recurrent one. Aimed at the habitually charitable Soane, it was indeed an arrow shot from a bow drawn at a venture.

Even Donaldson, in his brief appreciation of Soane read before the R.I.B.A. in February, 1837, thinks it necessary to devote two pages to an apologia for "his passion" for adding to his museum. Only a very few, like Isaac D'Israeli, who writes, "Your museum is permanently magical," entered into the spirit of this great Soanic adventure.

The distinguishing feature of his collection is the singleness of the aim with which it was directed. Soane's ideal may have been an impossible one, like the union dreamt of in Bolognese Academies of the drawing of Michael Angelo with the colouring of Titian, or any other all-embracing conception of the fusion of qualities which seem to be outside our attainment, but, at any rate, it gave a plan and direction to his endeavour, one which raises the Soane Museum above the level of a mere curiosity shop, for which it would appear to be sometimes mistaken. After all, to interest the public, while serving the interests of the expert, is no mean achievement. It is like giving Hamlet the form of a melodrama.

Out of the wealth of objects in the museum any dozen objects of interest could be selected, each of which would be merely a specimen of a class.

The fragment of a Roman altar of the time of Augustus (page 47) is one of many rare marbles displayed in the little study. Soane had a peculiar interest in the Vitruvian epoch. He had, perhaps, no adequate conception of the exact bearing of the pre-Roman Etruscan architecture, but he had clearly reflected on the problem of the early work of the incipient Empire. The Temple of Tivoli, which had been his special study, had raised his suspicions as to the validity of Vitruvius, and he had further learnt from Robert Adam to differ from the orthodox conceptions of Sir William Chambers and his school of thought.

The marble details (page 47) from the corridor are believed to be parts of candelabra, objects which Soane had singled out in his constant study of finials and terminals of every description. Nothing was a greater cause of the often violent abuse directed against his buildings than this desire to find in the Classic tradition something equivalent to the pinnacles of mediæval architecture. Evidently Soane thought that hard measure had been dealt out to his second master and friend, Henry Holland, jun., for his "jelly glasses" on the Carlton House screen, because he has carefully preserved one of them in the museum. Pure line in forms devoid of ornament is an abstruse matter to a public fed on fretted masses of multifarious carving.

The oil jars (page 47), like those shown here in conjunction with some arches from the old buildings of the Palace of Westminster, taken down in 1823, when the new Scala Regia was constructed for George IV., were actually used in Soane's house at Chelsea. The idea was intolerable to the critic that architectural features could thus be supplied from a grocer's shop.

The caryatid (page 44) of Coade's stone is one of the pair that decorated the façade of the house in Lincoln's Inn Fields (erected in 1812). It pleased Soane that this

PENELOPE BOOTHBY'S TOMB. THOMAS BANKS, R.A., SCULPTOR.

pair should be in relation to two leaders on Grecian medical science, who used to stand on the Ionic portico of the College of Surgeons on the south side of the Fields, the then recent work of his first master, George Dance, R.A. Evidently at that time there were no tall plane trees in the garden of the Fields, as no such relation could be seen to-day, even if the alteration of the College of Surgeons by Barry in 1833 had not abolished Dance's figures. Coade's stone was a stoneware or terra cotta; "*a burnt artificial stone*," is the statement in the catalogue of 1784, which disclaims any connection with the material used by Robert Adam in the Syon gateway, that in twenty years had become dilapidated. Coade was joined by Seeley, and works are found signed with their names. Thomas Banks, R.A., the sculptor, had helped in the early work of the firm, and there is a final panel of his "Caractacus Before Claudius" in the museum, which is a good example of the excellence of the work that they could do when in good hands.

An illustrated sheet, if there was one of this early period, would be of value as showing what vases, etc., were available for architects' use, where special ones could not be afforded. James Wyatt often employed resources of this kind, using cast iron, as for capitals and panels at Heaton Hall, before the idea had been vulgarised by Nash, who lined whole streets with orders of an architecture that was certainly not metallic in design.

Banks was a fellow-student of a slighter older standing than Soane, but their time in Rome just overlapped. They seemed to have worked well together, more particularly in the Lothbury Court of the Bank, where the sculptor's large medallions of Night and Morning harmonise well with the architect's adaptation of the

SETI I., SARCOPHAGUS.

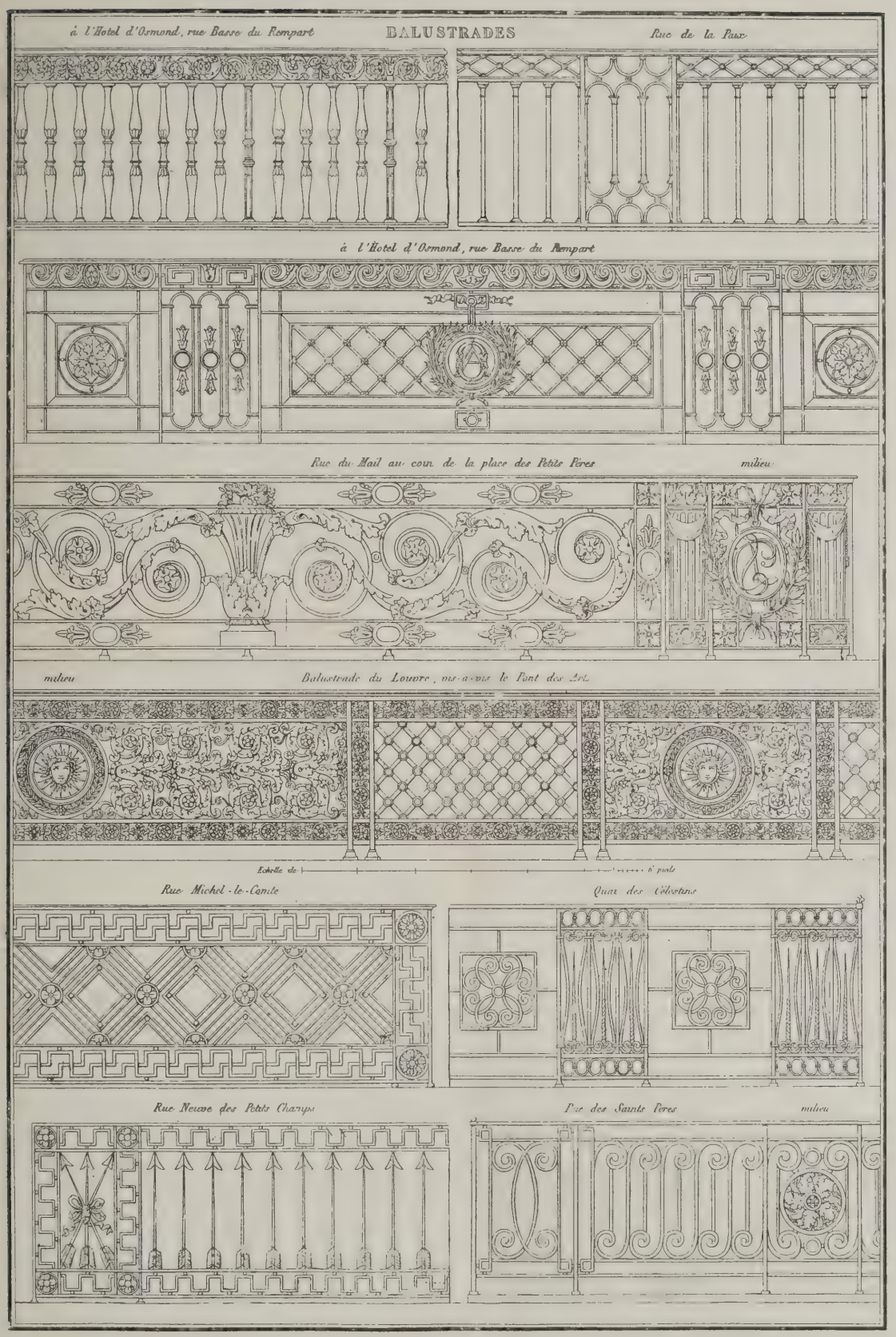
CARYATID IN COADE STONE.

scheme of a Roman triumphal arch. Banks's masterpiece, the Penelope Boothby monument (p. 43), is represented in the museum by a cast, which seems to have come here through Chantrey, as he writes to Soane, "Positively you shall have the best of Banks." This illustration is from the marble bust itself, being from a photograph taken on the spot by the late curator. The fine inscription, which reads like the composition of Edmund Burke, should be noted. Reynolds painted the child at the age of three, and Banks immortalised her in this way at six years old. Surely a case of brief life and lasting glory. The Handel Medallion (p. 40) looks back probably to Roubiliac, to whom it is attributed. It is not known where it came from, but the musician was the hero of Tyers's Vauxhall Gardens, and it may have been part of some decoration there, or perhaps at the "Ancient Music" Rooms in Hanover Square. James Wyatt became embroiled with the aristocratic Committee of that institution, and Soane was called in to adjust the matter at his own discretion.

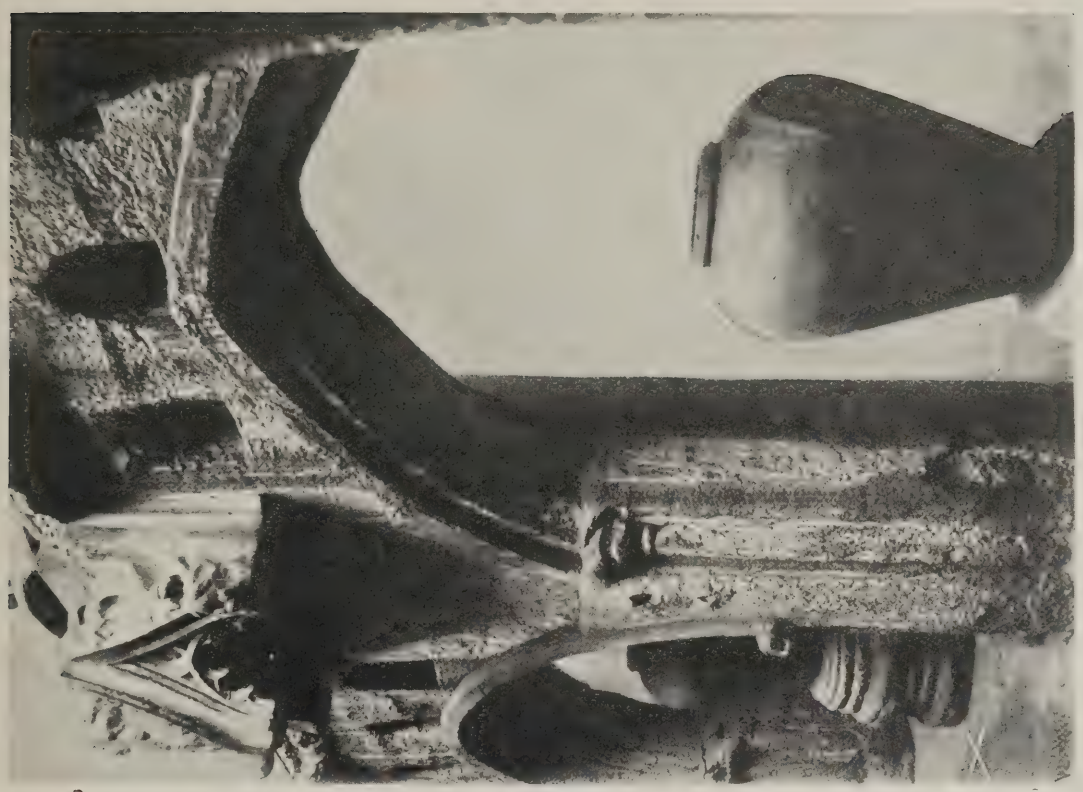
The Sarcophagus of Seti I. above, bought by Soane in 1824, on its refusal by the British Museum, was one of the triumphs of Soane as collector. He was the Daniel that read the writing, figuratively if not literally. Probably the fine line-drawing of the figure of the Goddess of the Heavens, who upheld the mummy of the king in her arms, convinced Soane of its real and unique importance.

[Mr. Bolton's commentary upon some of the treasures of the Soane museum will be concluded next week, when a further selection of illustrations of objects unique for their architectural or archæological interest will be given. In connection with these articles readers should refer to Mr. Bolton's general description of the museum and its contents, which appeared in our issues for Nov. 12 and 19.—ED. A.J.]

Types of Paris Balustrades.



These balustrades are typical of the Directory and the Empire Period, which provided such considerable inspiration for contemporary English work. Examples of the above types may still be seen in Paris and its environs. Our plate is from an engraving by Bury, and is the first of a new series, which will be continued week by week.



OIL JARS AND MEDIÆVAL ARCHES: SOME TREASURES OF THE SOANE MUSEUM.

(*See Article beginning on page 13.*)

MARBLE CANDELABRA: DETAILS.

FRAGMENT OF A ROMAN ALTAR, TIME OF AUGUSTUS.

Town-Planning Experiences in Brazil

By BARRY PARKER, F.R.I.B.A.

WHEN the author went to Brazil he had no idea of engaging in actual building work there. He went out to advise on the valley known as Pacaembú. The city of San Paulo is growing with enormous rapidity. In 1886 the population was only 47,000; to-day it is approximately 500,000. In consequence of the difficulties it presented in the way of development, the valley of Pacaembú was being left derelict with the city spreading all round it. Obviously it should be a public park. The French Premier, M. Clemenceau, in his book on Brazil, pointed this out years ago. But the enormous value of the land seems to prohibit its adaptation as a park. It soon appeared that if the development of Pacaembú was to proceed on the best lines, the laws relating to streets and buildings in the municipality must be very materially altered. So the first task was to write a report on Pacaembú designed to convince the municipal authorities of the necessity for these drastic changes. Having made the drawings to illustrate this report, and handed it in to the municipal authorities, he realised that his stay in Brazil must be prolonged, at least until the authorities were convinced. He then turned his attention to the estate of Jardim America.

On this estate the prime necessity was that more houses should be erected at once to show the type of house needed on that estate if it were to fulfil the intention that it should be exemplary of what a suburban residential estate should be. The accommodation needed in the Brazilian house is very different from that required in an English house. In the illustrations the Portuguese names of the rooms, as well as, in most cases, the English translation, are given; but in some instances there is no English equivalent. Take the "copa" as an example. There is no equivalent for the "copa" in an English house. It is not a scullery, though much washing-up is done there; it is not a butler's pantry, from which its functions are very different; it is not exactly a servery, but it performs some of the functions of all three. Again, the "dispensa" is more than a larder; it is used more as a store-room for dry stores. Such things as we in England put in the larder are most of them in Brazil put in the ice-chest, and the ice-chest generally stands in the "copa."

In Portugal the Portuguese idea of keeping a room cool differs entirely from the practice in Italy. The Italian way of securing a cool room is by excluding sunlight from it as far as possible. The Portuguese idea is to make a room as airy as possible. In a Portuguese house the walling is often reduced to the absolute minimum dictated by structural requirements—i.e., the windows are made as numerous and as large as possible, so that when all are open each room is, for all practical purposes, a loggia. Therefore the loggia is very rare indeed in Portugal. In Italy, on the contrary, it is provided for almost every house. The Portuguese practice seems the more logical, for it is much more sensible to build a room which can be converted at will into a loggia than to divide the space available in two, making half of it room and half of it loggia, as the Italians do. The Portuguese practice obviates the necessity for carrying furniture backwards and forwards from room to loggia and from loggia to room alternatively, or providing furniture to remain in each of these, the furniture in the loggia being such as might remain there in all weathers. The author found that the older buildings in Brazil—i.e., the buildings carried out when Brazil was a Portuguese colony—were mostly very delightful indeed architecturally, carrying on the best Portuguese traditions. There was a period in the history of Brazil when a large influx of Italians had resulted in some very charming Italian Renaissance work; but nearly all the modern work in Brazil is fantastic and debased.

The author therefore resolved to revive and carry on the old Portuguese traditions, feeling that in these lay the best foundation on which to build up a true Brazilian style. The loggia, however, was so firmly established that it had to be accepted, even though it is not strictly in accordance with the Portuguese traditions. In Brazil the loggia is generally an adjunct to, or excrescence from the main building; so the contribution the author made was to embody the loggia in buildings which carried on the Portuguese traditions, but he incorporated it in the main building and made it an integral part of the design.

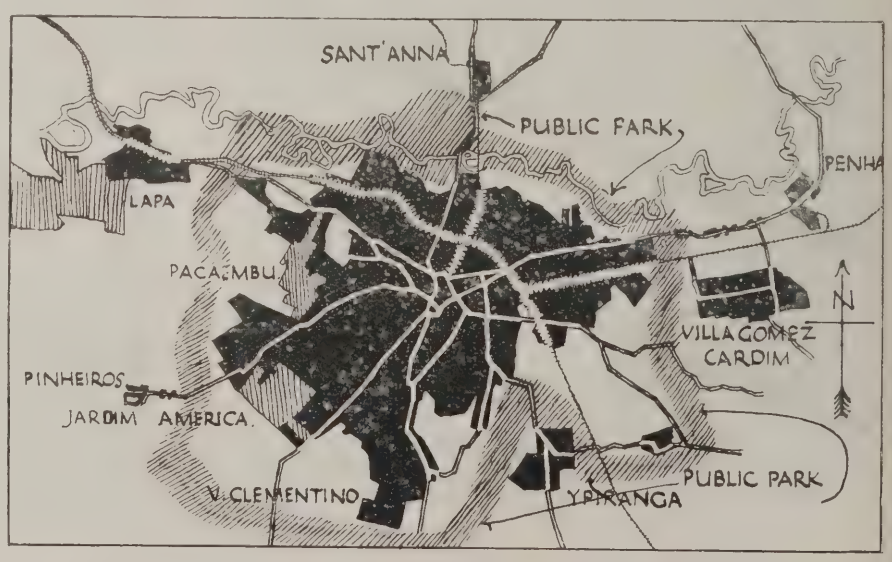
San Paulo being south of the equator, the cool side of the house is the south side. Therefore the kitchen should occupy the south-east angle of the buildings wherever possible. In house "F," however (see page 52), the architect's clients insisted on his changing the position of the kitchen and giving it the wrong exposure.

While the buildings erected in colonial days—i.e., in the days when Brazil was a Portuguese colony—had widely projecting eaves, yet in almost all the buildings subsequent to this era such eaves had been omitted, the walls being carried up as parapets. Wide projecting eaves, however, had very great advantages in a city so near to the equator as is San Paulo. In this latitude the sun at midday is, of course, almost overhead, and so in the hottest part of the day projecting eaves suffice to cast a shadow over all the walls and help to keep the house cool. But in the earlier and later hours of the day the less vertical rays of the sun play upon the walls and into the rooms. Why the custom of providing widely projecting eaves had been abandoned was not evident, and the author adopted them in all the buildings he designed.

Whereas in England a house with two or more storeys is the rule and the bungalow the exception, in Brazil the one-storey house is the rule.

While the author was designing these houses (some dozen or more in all), and seeing them built, and while he was remodelling the lay-out of Jardim America, the municipal authorities of San Paulo considered his report on Pacaembú, and were convinced by it that their laws must be modified to enable him to carry out his ideas with regard to that estate.

They then asked him to lay out for them two parks which they proposed to form, one of them a park of nearly 800 acres. This latter, the author pointed out, should not be treated as an isolated park, but as part of a complete "park ring" round the city. As already said, San Paulo is rapidly growing; it is surrounded by villages and hamlets which are growing almost equally rapidly. These villages and hamlets will soon be incorporated in the city. At present there is an opportunity to form a complete park ring intervening between them and the city, but the time is not far distant when this will be impossible. The suggestion made to the municipal authorities was that they should purchase a wide strip of land all round the city and dedicate the middle of the strip as park, and reap the benefit of the increased value which the land within the rest of the strip would acquire from the use of the middle of the strip as a park. In this way the scheme would be a highly remunerative one to the authorities, while making San Paulo an example to all the world. This suggestion



SAN PAULO AND ITS ENVIRONS, SHOWING SUGGESTED PARK RING.

Detail of a House at San Paulo, Brazil

Barry Parker, F.R.I.B.A., Architect.

In another part of this issue Mr. Barry Parker describes the interesting housing scheme that has been lately carried out from his designs in Brazil. The above detail of one of the houses, with its gracefully designed balcony rail, broad expanses of wall surface, shuttered windows and overhanging eaves, conveys a good idea of the delightful character of the work.

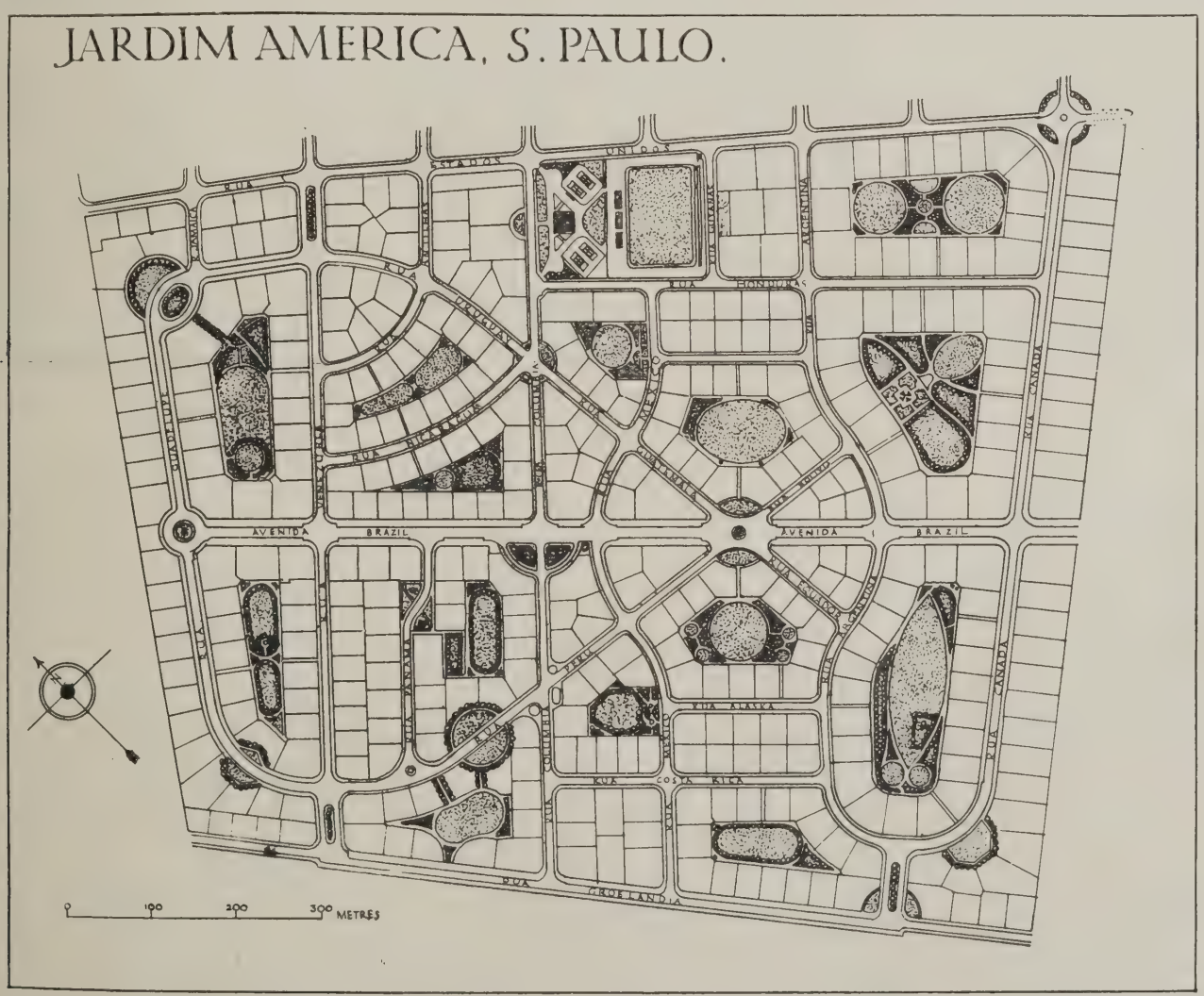
was enthusiastically taken up by the municipal authorities, who asked for a definite report upon it. The author spent much time locating a park-ring round San Paulo, with the result indicated in the accompanying plan. But here, again, legislation is needed; at present the municipal authorities of San Paulo have powers to acquire land for specific purposes, but not powers to buy and resell land. Some of the land designated for park purposes is already the property of the municipal authorities of the city of San Paulo, but most of this land is low-lying and subject to floods.

The city of San Paulo was founded by Jesuit missionaries who landed at San Vicente, and were driven from there to San Bernardo, and ultimately to San Paulo. An interesting and rare map made in 1810, and copied in 1841, shows very clearly how the original city occupied a triangular plateau between three eminences, on each of which was a monastery. These monasteries occupied the strategic points most easily fortified. It was not against the natives that the missionaries had to entrench themselves so much as against the traders, who, being jealous of the success which the pacific methods of the missionaries met with among the natives, and because of the miserable failure which had attended their own ultra-barbarous methods, made war on the missionaries. The traders drove the missionaries from San Vicente to San Bernardo and so persecuted them there that they went further into the interior and selected the site of San Paulo, because of its strategic advantages, on which to set up their fortified convents and carry on their missionary enterprises.

The Rua San Bento, the long straight street running from the monastery of San Bento to that of San Francisco, which is to-day perhaps the busiest and most important street in San Paulo, while at the same time one of the narrowest, occupies exactly the site of the primitive road on which the earliest native converts to Christianity planted their huts when they came to San Paulo to live under the protection of the missionaries from the marauding traders. Such was San Paulo in these early days, built in the fastnesses of the great mountains 2,400 ft. above the level of the sea, and to such a city came the captain to whom the whole district was assigned. This captain took a point in the centre of the city, and from it struck a circle with a radius of a certain number of kilometres, giving to the municipal authorities all the land within that circle. Year by year this land has been assigned by the municipality to settlers—at first free, until now the remaining land lies too low to offer desirable building sites. In fact, a map coloured to show what land is to-day in the possession of the municipal authorities may be taken as showing the land which is liable to be flooded.

At the stage now reached in the author's work in Brazil, Messrs. Armour, the meat packers, began to build an enormous meat-packing and curing factory near Lapa. He therefore prepared the lay-out for a large estate which adjoined the land on which this factory was being built. The residents on this estate would be chiefly the employees of Messrs. Armour and Co.; it would therefore develop largely as a workmen's settlement. He adopted a course which he has always strongly advocated—namely, to design a number of typical houses for workers, and then to lay out the estate to accommodate these houses to the greatest advantage.

Designing a workman's house for Brazil presents a very different problem from that to be solved at home. A Brazilian workman almost always owns his own house, and it is almost always a bungalow. If he has not the necessary capital for the acquisition of a site he makes some arrangement to borrow this capital. He then proceeds to build his house, often building one room only to begin with—in fact, frequently only the shell of this room, living in it unplastered and without windows until he can afford those luxuries. Then he adds room after room until the house is complete, and he begins to apply the ornament of which he is so fond. Therefore, in the environs of any Brazilian city, you find houses in all stages of development, but all occupied. Sometimes the room or rooms nearest to the road have been built, and those it is eventually intended should be behind them are missing. Sometimes the room furthest from the road is first built, and room after room is added until the one facing the street is at last reached. The problem, therefore, of designing a workman's house in Brazil resolves itself into planning the house which can with the minimum of waste and demolition be added to at the different stages. In Lapa the building laws stipulated that in the first instance the house should be of a certain size. BARRY PARKER.



GENERAL LAY-OUT PLAN OF JARDIM AMERICA, SAN PAULO, BRAZIL. BARRY PARKER, F.R.I.B.A., ARCHITECT.

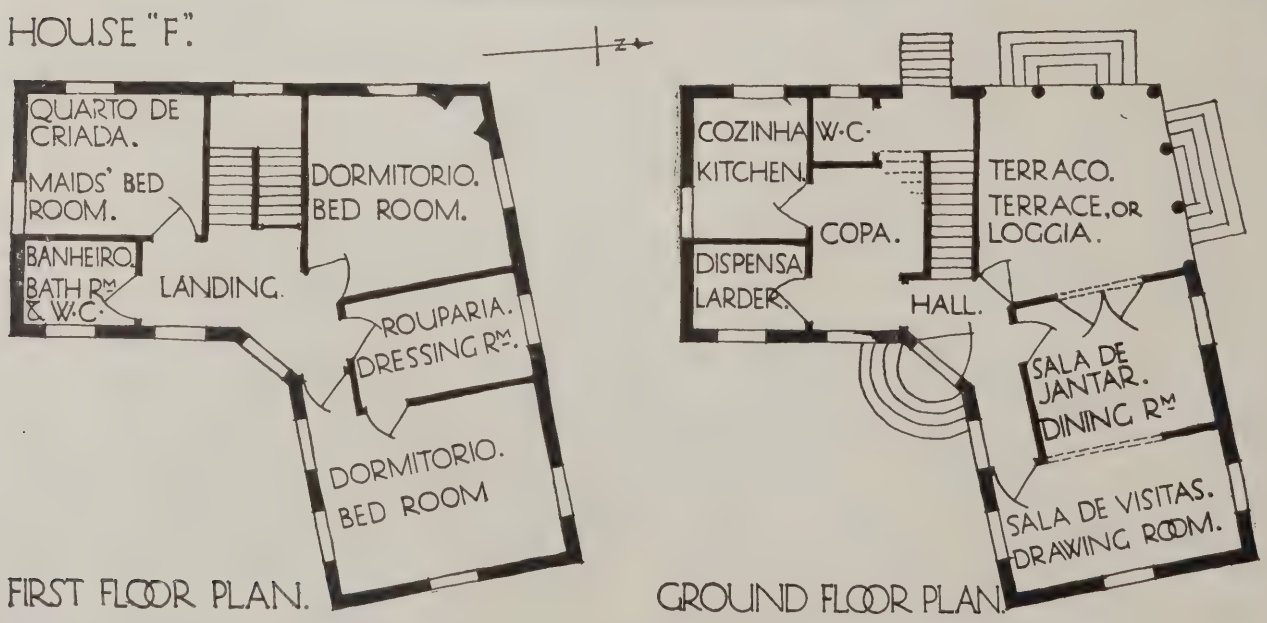
Obituary

Mr. Osmond Dawnay.

We regret to announce the death, at the early age of forty-seven, of Mr. Osmond Dawnay, one of the original directors of Messrs. Archibald D. Dawnay and Sons, Ltd., the well-known firm of constructional steel manufacturers. Mr. Dawnay died quite suddenly. He went to bed suffering, it was thought, from a chill, but the trouble proved to be septic poisoning, and he died within a very few days. Mr. Dawnay, who was educated at Dulwich College and King's College, was of a lively and generous disposition, and very popular with everybody, especially with the employees.

Messrs. Dawnay have lost three directors (all members of the family) within the compass of a few days over twelve months—first the father, Sir Archibald D. Dawnay, who received the honour of knighthood shortly before his death; then the eldest son, Dr. A. H. P. Dawnay; and now the second son, Mr. Osmond Dawnay. There are now only two members of the original company left—Mr. Ernest Willson (managing director and chairman) and Mr. Percy Dawnay, who is director in charge at the Cardiff works.

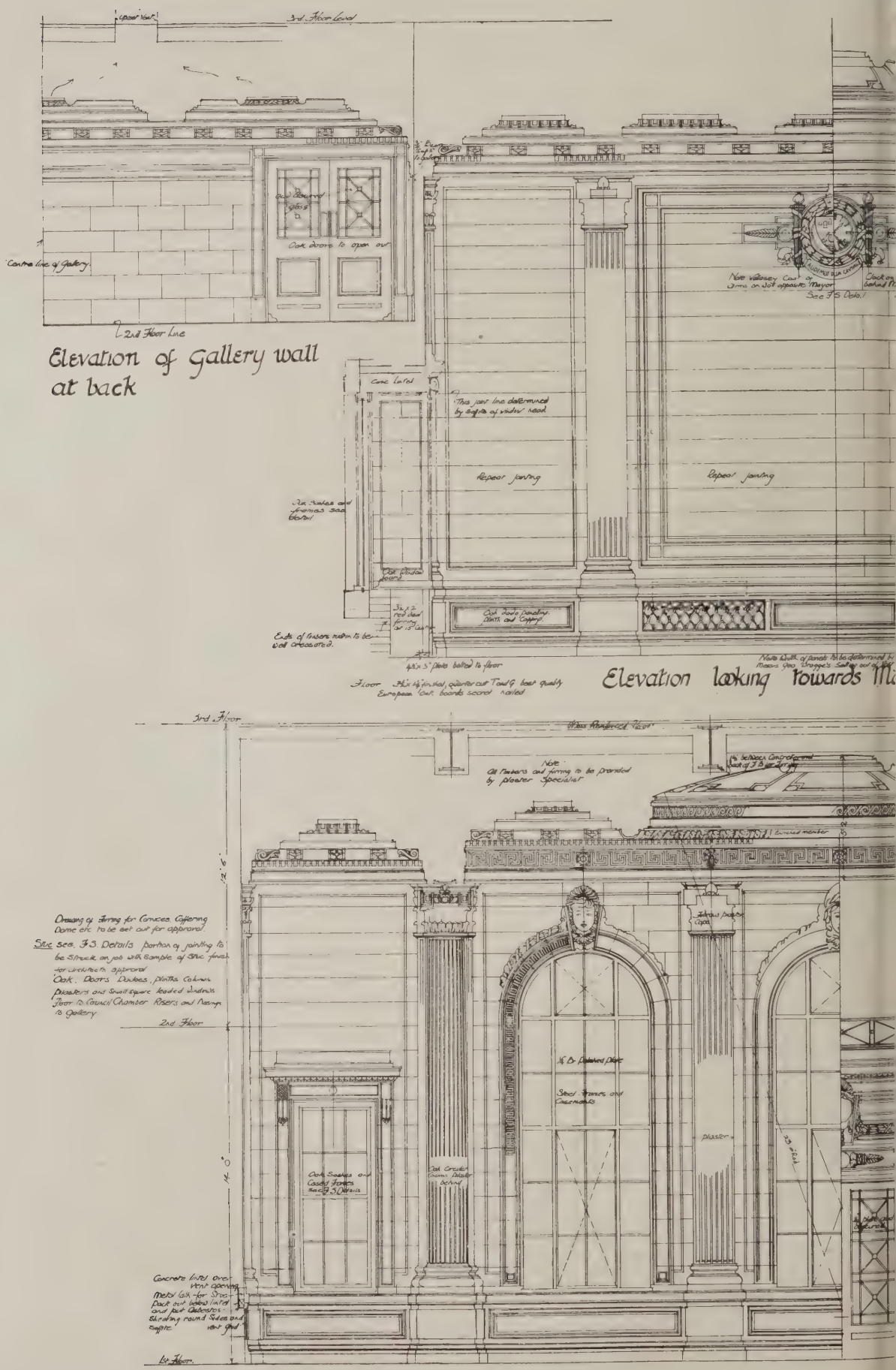
View of Angle, showing Terrace or Loggia.



HOUSE AT JARDIM AMERICA, SAN PAULO, BRAZIL. BARRY PARKER, F.R.I.B.A., ARCHITECT.

Wallasey Town Hall, Chesh

Briggs, Wolstenholme, and

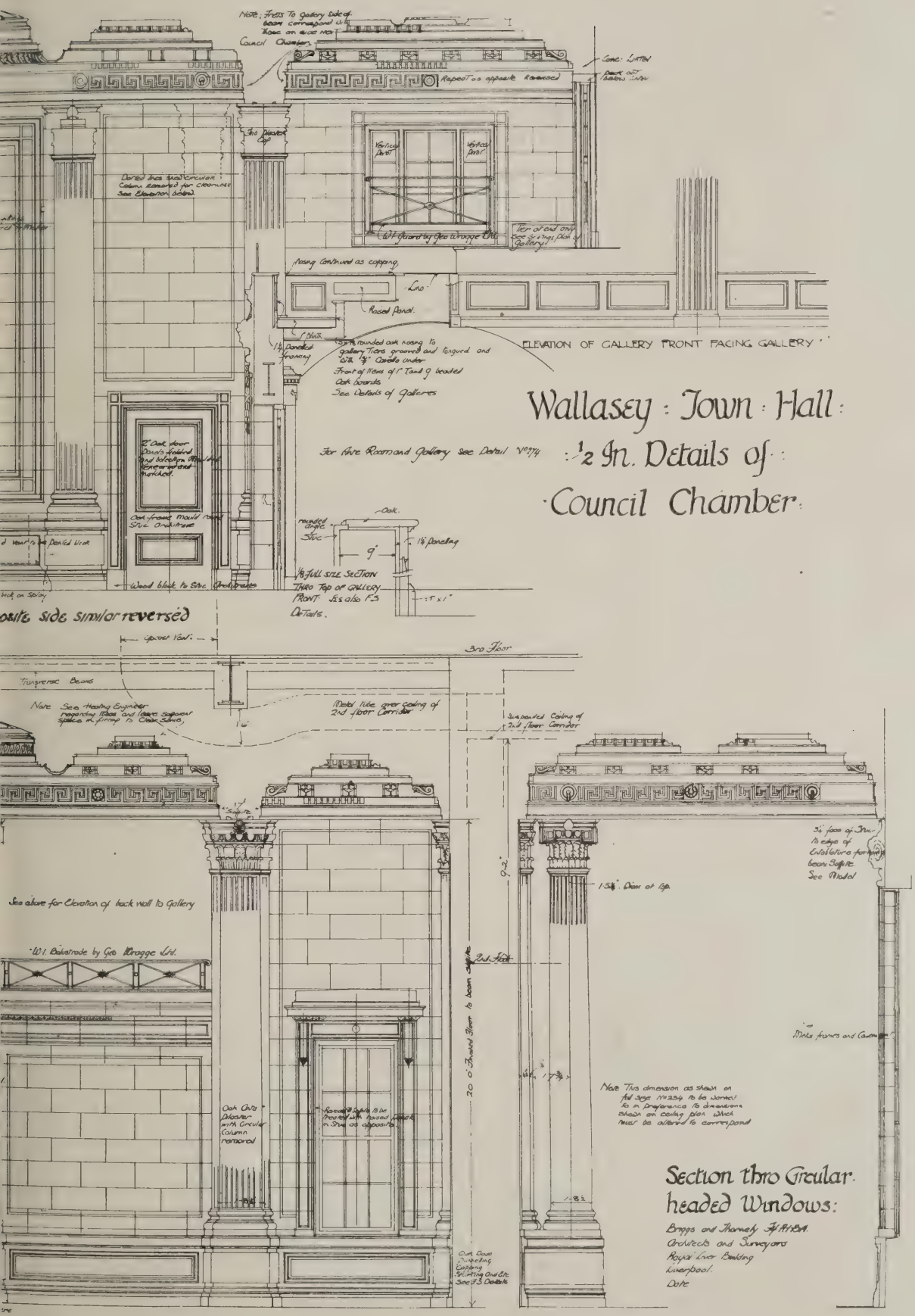


½ Elevation towards River.

This magnificent chamber, which is 50 ft. long, 34 ft. wide, and 24 ft. high, occu
finished in French stuc of a warm cream colour, and oak-fluted columns and pila
in panelled fibrous plaster. Seating accommodation is provided in the chamber
two preceeding numbers, and a full descript

Details of Council Chamber

y, FF.R.I.B.A., Architects.



vation towards Gallery

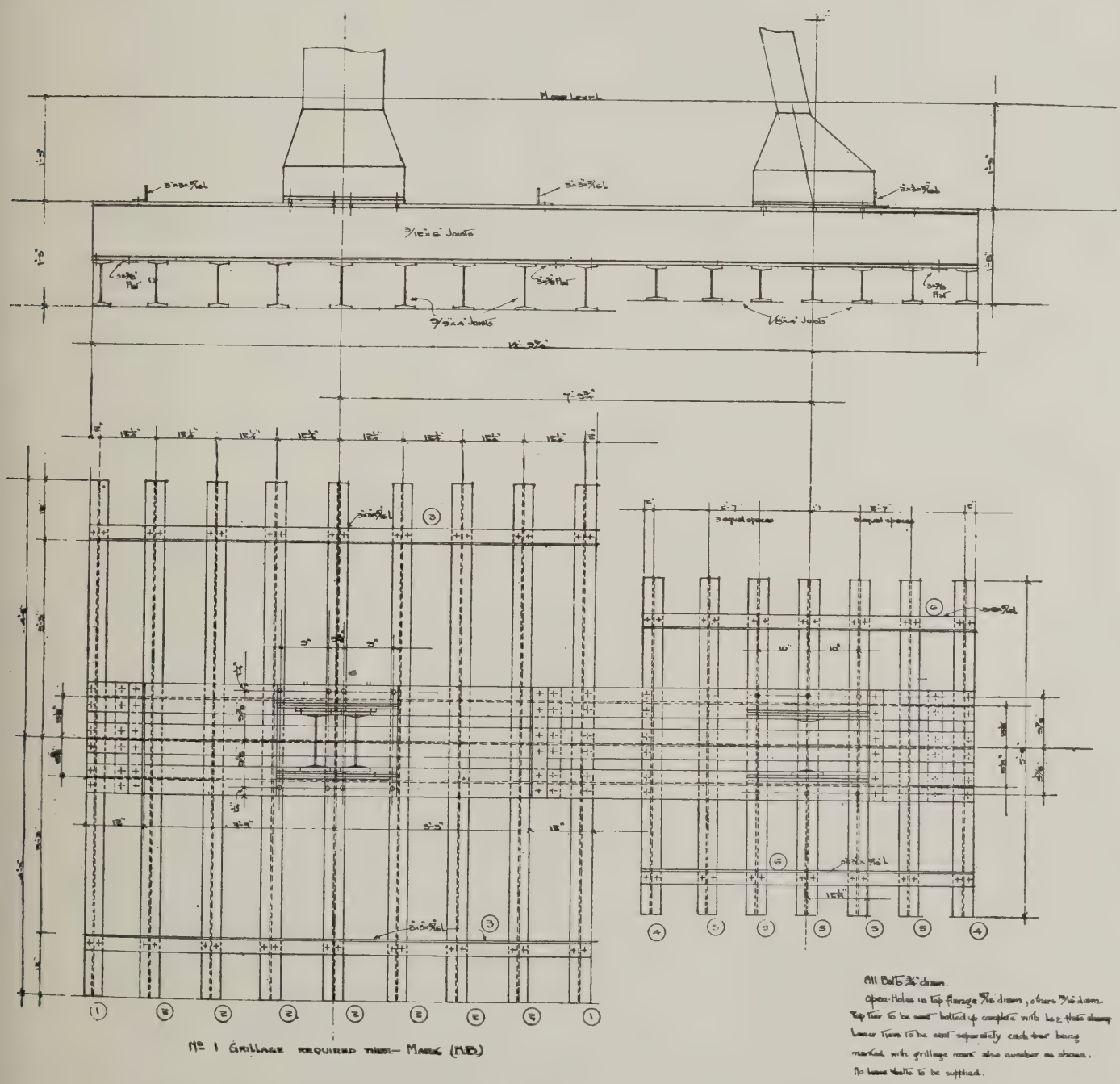
position on the second floor of Wallasey's new Town Hall. The walls will be oak panelled dado will complete the decoration. The ceiling is richly treated ors. Plans, elevations, and sections of the Town Hall were published in our lding was given in our New Year's issue.

A Steel-Framed Shed for Seaplanes

THIS steel-framed shed, photographs and details of which are reproduced, was erected for the Government under the personal supervision of Sir Frank Baines, C.B.E., M.V.O., Principal Architect H.M. Office of Works, and was used for the construction of seaplanes. Covering a total area of 77,250 ft., and containing approximately 1,450 tons of steelwork, the buildings consist of flying boat shed, boiler house, power house, pump and motor houses, also lavatory blocks and a fire service reservoir for emergency. For marshalling purposes, a platform was erected on the water frontage, from which a slipway projects into the water for a distance of 500 ft.

The flying boat shed is a steel-frame structure having a roof of the north light type, covered with corrugated iron sheeting on the south slopes. The south side and the east and west gable ends were also covered with corrugated iron sheeting, and glazed at about 20 ft. above the floor level for a height of 8 ft. continuously round the three sides. This building, which is notable for its large spans running in the direction of the length, which consist of two 150-ft. bays in the centre, and two 100-ft. bays, one at each end, is of the following dimensions: 500 ft. long by 153 ft. wide, by 35 ft. in height to the underside of the main girders, and 54 ft. in height to the top of the ridge. The large spans referred to were necessary for the accommodation of the largest flying boats then being constructed, and also left a margin for future developments in flying boat construction.

The roof was constructed to carry heating, rainwater sprinkler pipes, and large water tank, also runways, all in addition to roofing materials and wind pressure. The roof consists of main N-type lattice girders, 150 ft. and 100 ft. by 17 ft. deep overall, in four rows arranged longitudinally and spaced at 38 ft. 6 in. centres, thus necessitating only nine internal stanchions, these in each instance being tied to the side stanchions by transverse-braced girders, which were also utilised to support batteries of service, heating, and water pipes. The side stanchions were provided with braced raking struts. Trusses of light construction were cantilevered from the girders at 15-ft. centres the north portion of the roof being cantilevered out from the first row of main girders, thus forming a north light hood to which the steel angles forming the top guides for the doors were fixed. A sheet-iron valance was arranged underneath the



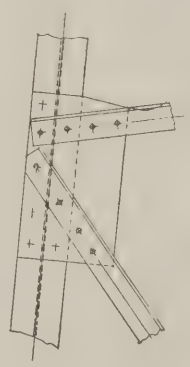
STEEL-FRAMED SHED FOR SEAPLANES, HYTHE: DETAILS OF GRILLAGE FOR STANCHIONS.
SIR FRANK BAINES, C.B.E., M.V.O., F.R.I.B.A., PRINCIPAL ARCHITECT H.M. OFFICE OF WORKS.

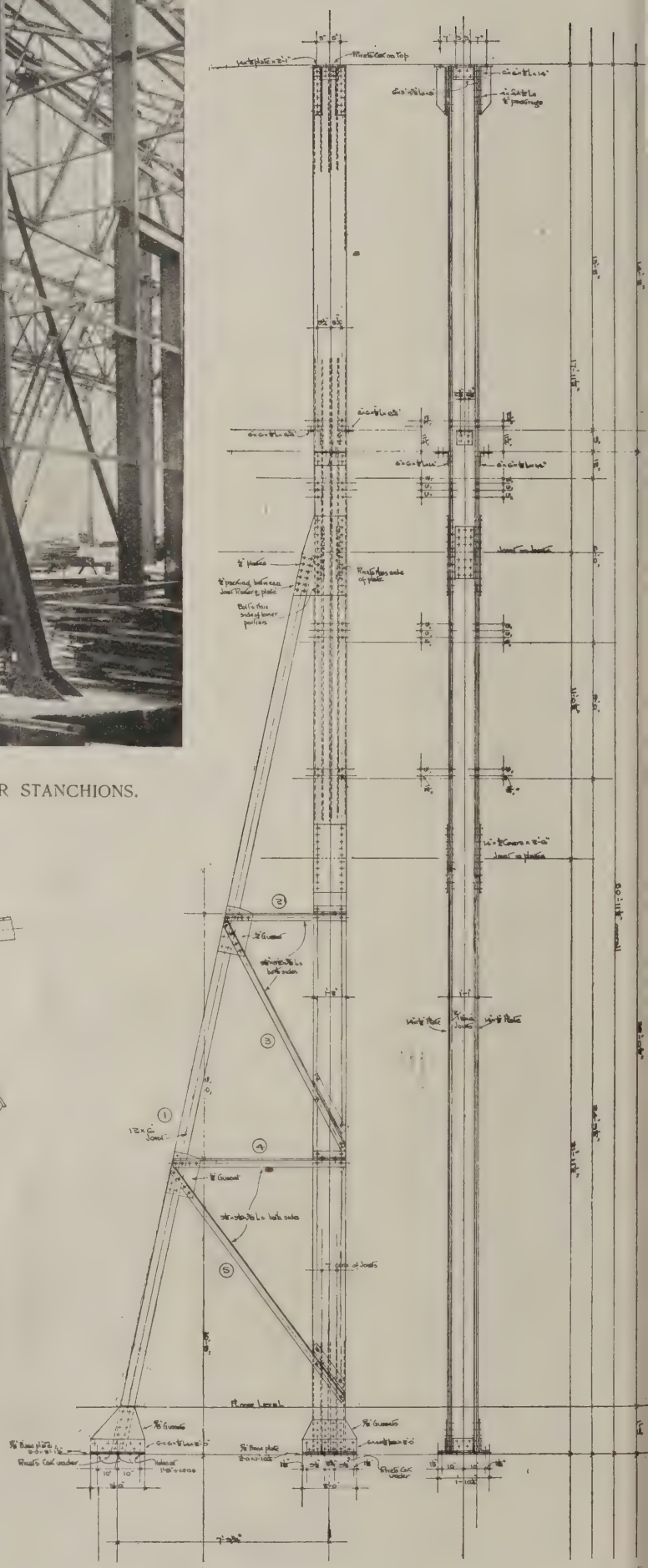
DETAIL OF LOWER PART OF MAINBRACING TO CORNER STANCHIONS.

gutter to prevent rain from entering into the shed. To deal with wind pressure, horizontal deep braced wind girders were placed all around the shed at the eaves level, thus conveying wind pressure to the rows of stanchions, and thence to the ground through the raking struts. A cast-iron tank supplying the sprinkler service, etc., and weighing when full approximately thirty-two tons, was fixed upon a steel-frame structure consisting of lattice girders and stanchions at a height of 10 ft. above the apex in the centre of the roof.

As it was necessary to make preparation for the efficient lighting of night operations, a platform, 15 ft. by 6 ft., was cantilevered out from the trusses at the north-east corner of the roof for the accommodation of a searchlight, which was used to throw a beam on to the marshalling platform and slipway. Access to this lighting platform was provided for by means of a steel ladder from the ground. Steel ladders were also provided at the ends of the valley gutters, but these were stopped at a reasonable height from the ground to prevent trespass, but could be reached by the use of an ordinary ladder.

Three tracks were provided for the whole length of the north side to carry twenty sliding doors, each 25 ft. wide by 35 ft. 6 in. high, and each weighing approximately six tons. These doors are kept in position at the top of the angle guides, and these guides also form part of the horizontal wind girder. The doors were constructed of channel frame and angle bracing, and some of them were provided with framing for wicket doors. The whole of the doors are covered with corrugated iron sheeting and glazed with patent glazing to match the other three sides of



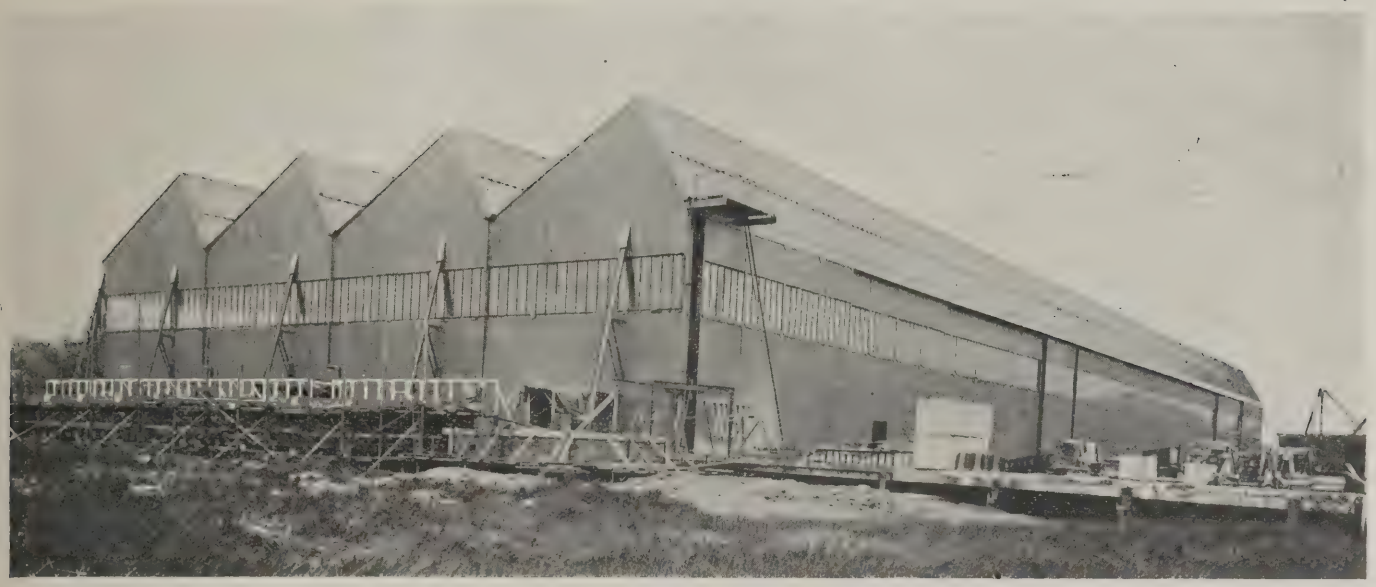


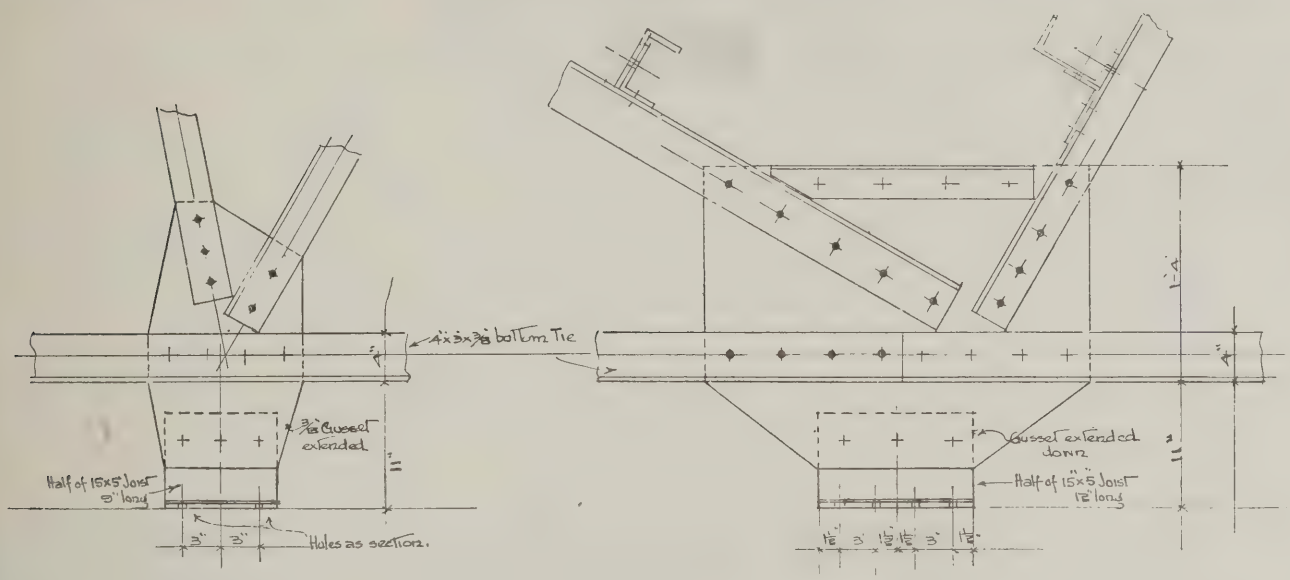
STEEL-FRAMED SHED FOR SEAPLANES, HYTHE: DETAIL OF FRONT STANCHION AND RAKER SIR FRANK BAINES, C.B.E., M.V.O., F.R.I.B.A., PRINCIPAL ARCHITECT H.M. OFFICE OF WORKS.

St. Agatha's Church, Birmingham : The Tower

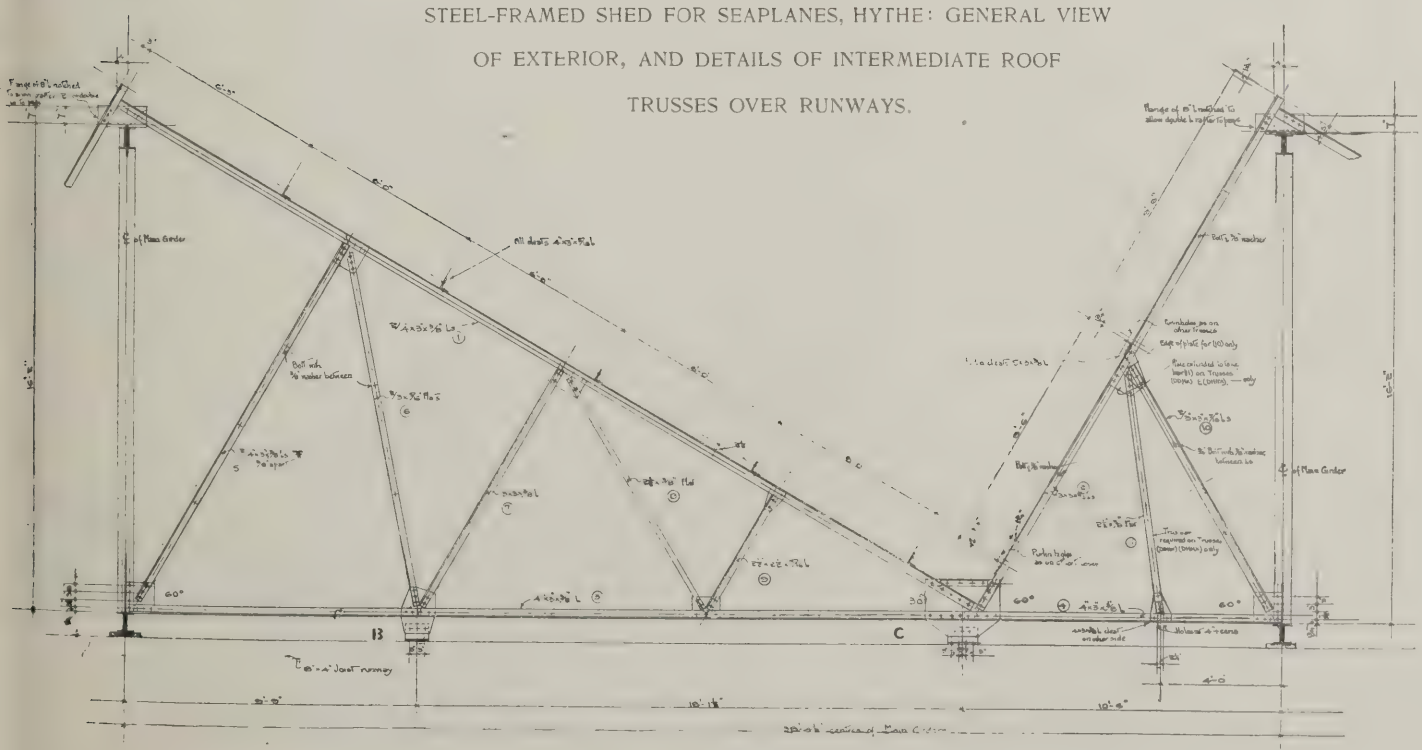
W. H. Bidlake, M.A., F.R.I.B.A., Architect.

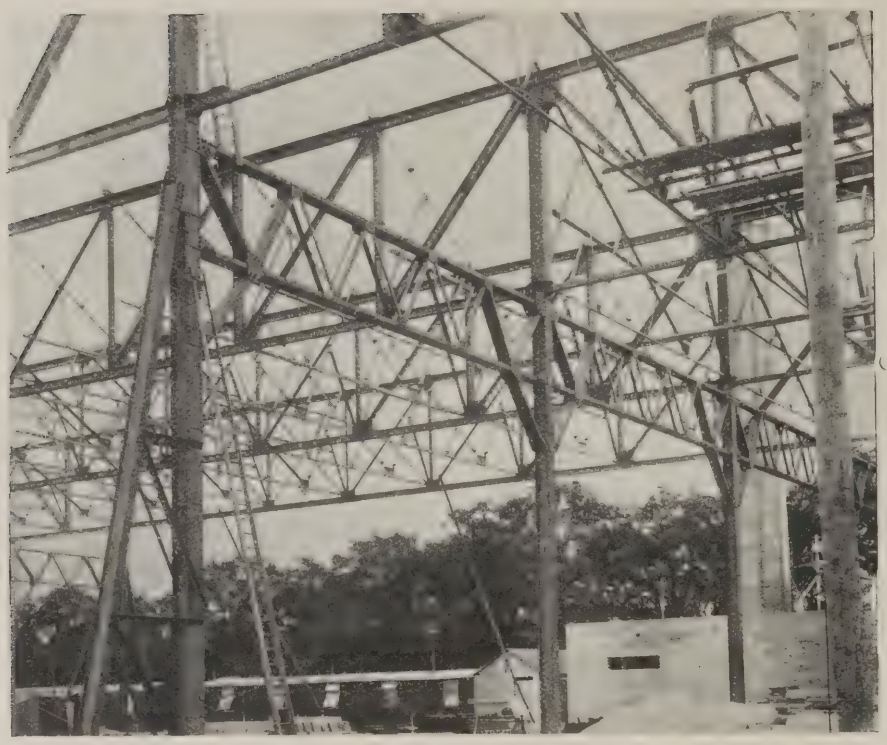
In the above church the architect has avoided mere copyism of one or other of the accepted periods of Gothic development, but has yet produced a work which, for all its individuality, is full of the Gothic spirit. Some general particulars will be found on page 65.





STEEL-FRAMED SHED FOR SEAPLANES, HYTHE: GENERAL VIEW OF EXTERIOR, AND DETAILS OF INTERMEDIATE ROOF TRUSSES OVER RUNWAYS.





HYTHE SEAPLANE SHED: VIEW OF STANCHIONS, MAINBRACING, AND RAKERS.

the building. They are supported on two wheels each, which are supplied with ball bearings, and they are also provided at the top with runner wheels which run between the angle guides. These doors are found to work very smoothly, as they can be manipulated by one or two men, and they are so arranged that more than half the shed, that is 275 ft., can be opened at once if desired. Three separate tracks were provided in order that any bay may be opened by the movement of the least number of doors. On the south side four pairs of sliding doors were provided similar in type to those described, but smaller in size, being each 15 ft. wide and 20 ft. high, the opening on this side being 30 ft. by 20 ft. All the doors in the building were provided with rubber buffers to prevent jarring when they come into contact with each other.

Subsidiary stanchions were provided on the south, east, and west sides. Those on the south side, which were 5 in. in width and 39 ft. high were delivered at the site and erected in one piece. These subsidiary stanchions support the end of the roof trusses and angle framing which carries the corrugated iron sheeting and patent glazing; they also support two batteries of heating pipes. The subsidiary stanchions on the east and west sides, which varied in height, were also delivered and erected longitudinally running up into the gables. The longest of these were of braced compound section provided with raking struts, and carrying the ends of the main girders in addition to angle framing, glazing and heating pipes as before mentioned. The bases of all the main stanchions rest on steel grillages embedded in concrete foundations of a size necessary to provide sufficient area to spread the load safely on the gravel.

In the valleys, and supported by the trusses, large cast-iron trough gutters were fixed. Owing to the great length, expansion joints were provided. The gutters were stiffened every 3 ft. with T stiffeners, which also support the snow cradling. The longitudinal main girders were so placed as to form the ridge of the trusses, and the bottom booms were continued on to the stanchions, thus bracing and shortening the effective length of these stanchions.

The erection of the main girders was accomplished by assembling them and riveting them together on the ground adjacent to the stanchions supporting them. They were then lifted by means of steel derricks to their seatings on the top of the stanchions. The 150-ft. span girders were about seventeen tons in weight, and the 100-ft. span girders were about eight ton in weight.

The 100-ft. bay at the eastern end of th shed was built over reclaimed land. Thi necessitated a floor which consists of mai plate girders and intermediate joists, ove which smaller filler joists were placed t receive concrete to carry heavy point roll ing loads of three tons. The remainin portion of the floor and marshalling plat form is composed of concrete, reinforce with light wire mesh to distribute the roll ing load just mentioned.

The slipway has a gradual slope, and i constructed of reinforced concrete pipe 2 ft. 6 in. diameter, sunk down to the bal last and filled with concrete to form pier at 16 ft. centres, to which cross girders ar anchored down, carrying longitudina girders running the whole 500 ft. length c the slipway. The floor of this is forme of reinforced concrete blocks with sma space left between each block, and i designed to carry three-ton point rollin loads of the seaplane trolley. The side are protected by elm fenders, which ar bolted thereto. The seaplane shed wa manufactured by Messrs. Archibald E Dawnay and Sons, Ltd., of Battersea an Cardiff.

[It is the intention of the Editors of th Journal to publish as frequently as po sible articles of constructional interes such as the foregoing, and in furtheranc of this policy they will welcome any contr butions or suggestions that readers may b able to supply. Architects, in the cour of their everyday practice, must often e counter difficulties of construction th have to be solved in a special way. The points, unimportant as they may perha seem at the moment, are of a very real pra tical interest. The Editors will be glad any time to receive short articles on th lines indicated, accompanied by explan tory drawings.]

HYTHE SEAPLANE SHED: GENERAL VIEW OF INTERIOR SHOWING NORTH LIGHTS.

Competition News

The Restoration of Belgium.

The Minister of Health, in a letter to he R.I.B.A., dated January 1, intimates hat he has been requested by Baron Delvaux de Fenffe, High Commissioner or Liége, to call the attention of British rofessional institutions interested to the rogramme of a competition for designs f various types of building required in he restoration of the devastated regions f Liége, Namur, and Luxembourg. The roject has the assent of the Belgian linister of the Interior. The High Comnissioner says that it is the wish of all who ave at heart the full and complete restoation of the country that the reinstated istricts shall possess charm, the cities be e-created under the inspiration of their egional arts, and the resources of local radition be freely drawn upon and local naterials utilised. He disclaims any idea f uniformly repeated types; a judicious iversity is essential.

"Mais," he says, "il n'est pas niable u'une collection de beaux types de açades de diverses espèces de construcons, appropriées à la contrée et à l'usage uquel elles sont destinées, bien inspirées es styles régionaux, sera une précieuse ndication pour tous, en même temps u'un guide pour les bâtisseurs qui oudront, sans nul doute, écouter la voix e nos artistes, pour ajouter à la Patrie un ouveau charme de beauté! "

The following is the full text of the conitions of competition:

Art. 1.—Il est ouvert un concours de açades pour les maisons à édifier dans les ommunes adoptées des provinces de iége, Namur et Luxembourg.*

Le concours portera sur 10 catégories de onstructions:

(1) Maison d'habitation d'un ouvrier, 'un petit propriétaire ou d'un petit nployé.

(2) Maison d'habitation d'un bourgeois entier ou profession libérale).

(3) Maison de commerce de peu d'imporance (petite boutique).

(4) Maison de commerce d'une certaine nportance.

(5) Maison de campagne, très modeste.

(6) Maison de campagne, assez importe.

(7) Petite ferme.

(8) Grosse ferme.

(9) Maison communale.

(10) Ecole.

N.B.—Pour les 4 premières catégories, s maisons de coin sont considérées comme articulièrement intéressantes. Toutes les açades jugées dignes d'être édifiées seront rimées. En outre, le Jury classera les açades primées dans chacune des catéories.

Art. 2.—Le Jury tiendra compte de la aleur et du caractère de la construction, elativement à la catégorie laquelle elle ppartient. Chaque façade devra être expression et sera accompagnée d'un an croquis logique, confortable et inhént à sa catégorie. Les concurrents se énètreront de cette pensée que les façades rojetées doivent prendre place dans un dre de constructions ayant son originalité et ses caractères propres, et s'harmoniser avec celles-ci. On peut citer à titre exemplatif les genres suivants: Dinant et les localités dévastées de la province de Namur,—Battice, Herve, Visé,—le sud du Luxembourg: Ethe, Tintigny, etc., etc. La préférence ira aux œuvres inspirées des styles régionaux et utilisant les matériaux du pays, ainsi qu'aux traités avec économie, et tenant compte de la cherté des matériaux et de la main d'œuvre.

Art. 3.—Le Jury disposera d'une prime de 10,000 frs., d'une autre de 5,000 frs., de 4 de 2,500 frs., et de 25 de 1,000 frs., qu'il repartira et éventuellement subdivisera selon les mérites des œuvres présentées. Ces primes pourront être accordées intégralement à l'auteur de plusieurs projets primés.

Art. 4.—Le Jury pourra décerner en outre, des diplômes de médailles d'or, de vermeil, d'argent et de bronze, suivant la valeur des projets.

Art. 5.—Le Jury statuera souverainement.

Art. 6.—Le Jury sera composé comme suit:

Le Haut Commissaire Royal ou son délégué.

Un Membre de la Commission Royale des Monuments.

Un Délégué de la Fédération des Sociétés d'Architecture de Belgique.

Un Délégué de l'Union des Villes et Communes belges.

Un délégué de la Commission pour l'embellissement de la vie rurale.

L'Architecte Directeur du Service des Constructions du Haut-Commissariat.

Un artiste désigné par les concurrents.

Le Secrétariat du Jury sera tenu par un fonctionnaire désigné par le Haut-Commissaire.

Art 7.—Les envois seront anonymes; chaque projet sera marqué d'un signe reproduit sur deux enveloppes fermées; une, contenant le nom et l'adresse du concurrent, l'autre, le nom de l'artiste proposé par le concurrent comme membre du Jury. Les envois seront remis au bureau du Haut-Commissariat à Liége, avenue de l'Exposition, 35, au plus tard le 31 janvier 1920, avant midi. Il est désirable que les dessins soient sur châssis.

Art. 8.—Un artiste pourra présenter plusieurs projets et concourir dans plusieurs catégories. Les dessins des façades primées resteront la propriété du Haut-Commissariat.

Art. 9.—Les façades seront bien dessinées à l'échelle de om,02 par mètre, et accompagnées éventuellement de coupes, profils et détails à l'échelle de om,05 par mètre. Les indications nécessaires seront aussi données sur la nature des matériaux employés.

Art. 10.—Le Jury est tenu de dresser un rapport, oú il donnera son avis sur chacun des projets présentés. Après le jugement, tous les projets envoyés seront exposés publiquement pendant 15 jours. Cette exposition du concours aura lieu aux dates et aux endroits qui seront ultérieurement déterminés. A partir du 20 février, les projets non primés pourront être retirés contre reçu, au local de leur exposition, jusqu'au 1er mars 1920.

Art. 11.—Les propriétaires sinistrés seront vivement engagés à construire les façades primées. Pour chacune de ces façades exécutées et après avis du Jury, une prime d'encouragement pourra éventuellement être allouée au propriétaire de l'immeuble, si le gouvernement en décide ainsi. L'architecte, auteur de la façade exécutée, aura la direction artistique de cette façade et recevra une indemnité égale à 20% de la prime donnée au propriétaire. Pour certaines façades spéciales de constructions très en vue et dont l'exécution serait coûteuse, Monsieur le Haut-Commissaire pourra éventuellement sur avis du Jury, accorder une indemnité plus élevée, en raison de la valeur artistique de l'œuvre.

NOTE.—Il est rappelé que les concurrents conservent la propriété artistique de leurs œuvres. En conséquence, les propriétaires qui voudraient construire des façades inspirées d'une de celles primées pour être adaptées à des plans spéciaux ou à d'autres proportions, seront vivement engagés à s'adresser à l'auteur de la façade qui aura leurs préférences. Pour celles-là aussi, sur avis du Jury, des primes d'encouragement pourront éventuellement et avec l'assentiment des pouvoirs publics, être accordées au propriétaire.

Pour ces cas, l'auteur des plans aura à recevoir du propriétaire les honoraires prévus par le tarif de la Société des Architectes. Liége, le 4 nov. 1919.

Le Haut Commissaire Royal,
BARON DELVAUX DE FENFFE.

Approuvé à Bruxelles, le 6 nov. 1919.

Le Ministre de l'Intérieur,
BARON DE BROQUEVILLE.

It will be noted that Baron de Broqueville's approval of the conditions was given on November 6 and that the date of sending in designs is January 31, while the invitation to British architects to take part only reached the Institute on January 2. Representations were at once made to the Minister of Health that the time allowed British architects was inadequate, and asking him to use his good offices with the promoters to get an extension.

Birmingham.

Birmingham Civic Society have organised a competition amongst architects and others for the production of a scheme for the town-planning of the Northfield area, included in the South-West Birmingham town-planning scheme. The Civic Society offers a prize of £25 for the best treatment of the area proposed to be planned. The Society desire the preservation and proper treatment of a typical old village on the outskirts of the city, and the premiated design will be submitted to the Town Planning Committee for inclusion in the district scheme as a model for similar opportunities elsewhere. Full details may be obtained from the secretary of the Birmingham Civic Society.

Lyons.

In connection with the Congress for Dwellings to be held at the Lyons Fair this year a competition is to be held for the standardising of all processes of construction applicable to dwellings. The programme comprises the following three competitions: (1) Processes or methods of extracting and working of natural materials, and for the processes of clearing the sites and of using the materials of the demolitions in the liberated regions. (2) Processes of transforming natural materials into half-wrought and wrought materials (through fire, agglomerating, etc.),

* Les communes adoptées sont:
Province de Liége: Barchon, Battice, Berneau, Bonles, Fléron, Francorchamps, Hermée, Herve, Julémt, Louveigné, Mouland, Olne, Seilles, Visé
Province de Namur: Dinant, Hastière par delà, aux Onhaye, Oret, Romedenne, Sorinnes, Surice.
Province de Luxembourg: Herbeumont, Ethe, Izel, issin, Musson, Porcheresse, Rossignol, Tintigny.

(3) Manufacturing between machines of the same kind (at work). The characteristic feature of the competitions consists in the essential point that there will only be admitted, on the one hand, processes of extracting, working, and transforming, and, on the other hand, only such machines as constitute a progress over what already existed before the war. The advantages of the materials shall be appreciated at the point of view of the qualities required for good building, i.e., solidity, hygiene, cost-price, etc. Full particulars may be obtained from the Bureau de l'Office Central de la Construction et de l'Habitation, Hôtel de Ville, Lyons, France.

Cheltenham.

Cenotaph to be erected on the Band-stand site on the Promenade. Apply Mr. R. O. Seacombe, hon. secretary to the War Memorial Committee, Municipal Offices, Cheltenham. Closing date Jan. 28.

Winsford.

War Memorial to cost about £300. Apply Mr. J. H. Cooke, hon. secretary to the Design and Sites Committee, Winsford, Cheshire. Closing date Jan. 30.

Ilfracombe Concert Hall Competition.

The Competitions Committee of the R.I.B.A. desire to call the attention of Members and Licentiates to the fact that the conditions of the above competition are wholly unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment in the conditions. In the meantime Members and Licentiates are advised to take no part in the competition.

Bridgwater Housing Competition.
Eastbourne War Memorial.

The Competitions Committee have decided to recommend the Council to veto both the above competitions because the conditions are not in accordance with the published Regulations of the Royal Institute. Pending the issue of the veto, Members and Licentiates are therefore advised to take no part in the competition.

Chatham.

The Council of the Borough of Chatham are offering a prize of £100 for the winning design in a competition for the lay out of about fifty acres of land for the erection of working-class dwellings. Full particulars and conditions of the competition may be obtained on application to Mr. Edward B. Lee, Town Clerk, Town Hall, Chatham. Closing date, February 9.

The R.I.B.A. War Memorial

The memorial which the Council of the R.I.B.A. have decided to erect at the Institute will take the form of a tablet bearing the names of members who lost their lives in the War. The design of the memorial will be the subject of a competition limited to members and students who served in His Majesty's Forces during the War. The conditions of competition are being prepared by the Competitions Committee, and will be made known as soon as possible. Meanwhile, as it is feared that there may be names missing from the R.I.B.A. Roll of Honour, the assistance of members and non-members in making it complete is earnestly solicited. To facilitate their co-operation, the list as compiled from the latest information received at the Institute is here printed:

HONORARY FELLOW.

Kitchener of Khartoum: Field-Marshal Earl.

HONORARY ASSOCIATE.

Donaldson: Sir Hay Frederick.

FELLOWS.

Corbett: Alfred Edward, Capt., Border Regt.
Fletcher: Herbert Phillips, D.S.O., Croix de Guerre, Major, R.F.C.
France: Arthur Alderson, 2nd Lieut., Royal Engineers.
Halley: James Mitchell White, Major, Royal Engineers.
Livesay: George Augustus Bligh, Lieut., South Wales Borderers.
Lines: Roland Walter, Lieut., Canadian Expeditionary Force.

ASSOCIATES.

Adams: Laurence Kingston, Lieut., 7th King's Liverpool Regt.
Aitken: Andrew Danskine, 2nd Lieut., Royal Engineers.
Alexander: George Luard, Capt., London Regt. (attached Staff).
Barrow: Spencer Ellwood, Lieut., 5th Bn. King's Own Royal Lancaster Regt.
Barry: Francis Renton, Capt., 5th (Reserve) East Surrey Regt.
Bausor: Thomas Paul, 2nd Lieut., Shropshire Light Infantry.
Bennett: James, Lieut., Royal Engineers.
Bennett: Phillip Dennis, Capt., 5th Lancashire Regt.
Binning: Alan, Sergt., London Scottish.
Bownass: James Everitt, Princess Patricia's Canadian Light Infantry.
Braithwaite: James Ellis, Private, West Yorks Regt.
Bull: Joseph William, 2nd Lieut., Royal Engineers.
Cable: James Sydney, Lieut., Royal Garrison Artillery.
Callender: George Wilfred, Lieut., Royal Engineers.
Carmichael: David Arthur, Lieut.
Clark: Walter Llewellyn, Capt., Royal Flying Corps.
Cowdell: Charles Joseph Morton, 2nd Lieut., Royal Engineers.
Cuby: Joseph Berkeley, Capt., Northumberland Fusiliers.
Davies: Joseph Charles Gladstone, Lieut., Egypt Exp. Force.
Dunn: Gerald Morton, 2nd Lieut., Royal Garrison Artillery.
Durrant: Arthur Michael, Capt., Royal Engineers.
Eaton: Charles William, Capt., Leicester Regt.
Finning: Leonard John, Sergt., 24th Bn. 6th Australian Infantry Brigade.
Fraser: Henry Hubert, Lieut., 3rd Yorks Regt.
Gibson: Edmund Herbert, Lieut., Royal Naval Volunteer Reserve.
Gorringe: Wilfred Stuart.
Griffin: Douglas Morley, 2nd Lieut., King's Liverpool Regt.
Grissell: Francis, Lieut., Coldstream Guards.
Ground: John Kingston, 2nd Lieut., Royal West Kent Regt.
Gatteridge: Richard Howard, 2nd Lieut., London Regt.
Hadwen: Noel Waugh, Capt., Duke of Wellington's Regt.
Hartmann: Charles Herbert, Lieut., Royal West Kent Regt.
Hill: Claude Edgar, Staff-Sergt., Royal Army Medical Corps.
Honan: Matthew, Capt., South Lancashire Regt.
Hooley: Tom Williamson, 2nd Lieut., Durham Light Infantry.
Horsfield: John Nixon, Lieut., Royal Naval Volunteer Reserve.
Houston: William Wylie, 2nd Lieut., Royal Engineers.
Hoyle: Wilfred, Royal Fusiliers.
Hunter: George Edward, Capt., 6th Northumberland Fusiliers.
Ixer: Sydney Howard, Lieut., Royal Naval Volunteer Reserve.
Kay: George Alexander, 2nd Lieut., 2nd Notts and Derby Regt.
Leech: William Leonard Boghurst, Rifleman, 9th County of London Regt.
Lovell: Charles Ernest, Lieut., Royal Engineers.
Lowes: Albert Edward, A.S.C., 6th Northumberland Fusiliers.
Mackenzie: Gilbert Marshall, Capt., Seaforth Highlanders.
Meikleham: David Lang, Lce.-Corpl., Royal Engineers.
Milne: David, 2nd Lieut., Hants Cyclist Batt.
Minor, Philip, Lieut., Durham Light Infantry.
Notley: Albert Carr, Lancashire Regt.
Papworth: Alfred Wyatt, 2nd Lieut., Royal Engineers.
Petch: Ernest Scott, Private, Royal Scots Regt.
Phillips: Louis Augustus, Sergt., Public Schools Bn., Royal Fusiliers.
Philp: Richard Manning Haig, Capt., Royal Field Artillery.
Pilling: Percy Cunliffe, Capt., Loyal North Lancs. Regt.
Ponton: Harold Frederick.
Pywell: William Jackson, Private, Hon. Artillery Company.
Rigg: William Arthur, Public Schools Brigade.
Rogers: Cecil Walter, 2nd Lieut., Royal West Surrey Regt.
Rushworth: Tom Sadler, Capt., City of London Regt.
Shears: Reginald, London Regt.
Shield: James Edward Coleman.
Stone: George Marrison, 2nd Lieut., Royal Engineers.
Stonehouse: Charles, Lieut., East Lancashire Regt.
Stubbs: Edward Woodhouse, Lce.-Corpl., Royal Army Medical Corps.
Sturgeon: Robert Victor, Corpl., Manchester Regt.
Taylor: Herbert Samuel, 2nd Lieut., Oxford and Bucks Light Infantry.
Taylor: Joseph Henry, Lce.-Corpl., Royal Army Medical Corps.
Toone: John Algernon Edmund, Capt., Australian Divn., Pioneers.
Warry: John Lucas, 2nd Lieut., Rifle Brigade.
Watt: John Douglas Dickson.
Webb: Philip Edward, 2nd Lieut., Royal Engineers.
Whiteley: Charles Taylor, Lieut., Royal Warwickshire Regt.
Winch: Arthur, Corpl., West Yorks Regt.
Wright: Cecil Lawrence, 2nd Lieut., Royal Garrison Artillery.

LICENTIATES.

Abercrombie: Balfour, Private, Black Watch.
Atkinson: Beaumont Ellis, jun., Lce.-Corpl., Middlesex Regt.
Barker: Thomas Christopher, Yorks Regt.
Blackburne-Daniell: George Francis, 2nd Lieut., Royal Fusiliers.
Bowie: George Pigrum, Capt., 5th Bn. 1st Canadian Contingent.
Caudwell: Arthur Cyril, Private, Queen's Westminster Rifles.
Dicken: Aldersey, Sub-Lieut., Royal Naval Volunteer Reserve.
Flower: Victor Augustine, D.S.O., Lieut.-Col., London Regt.
Garratt: Edward.
Harrison: Christopher René, Lieut., 3rd Leicester Regt.
Henman: Charles Henry Rowed, Quartermaster-Sergt., 1st Field Co., Divnl. Eng., R.N.D.
Hookway: Gilbert John Frank, Private, Cambridgeshire Regt.
Jane: William, Major, Royal Engineers.
Mettham: John Arthur, Capt., Royal Engineers.
O'Brien: Edward, Royal Army Medical Corps.
Phillips: Arthur Maxwell, Capt., 11th King's Own Yorkshire Light Infantry.
Pullin: Henry Charles, Rifle Brigade.
Smith: James Buchanan Pentland, Lce.-Corpl.
Tinniswood: Alfred, Lieut., Royal Engineers.
Tucker: Arthur Haines, Lieut., Royal Sussex Regt.
Williams: William Harold, Lieut., Royal Garrison Artillery.
Wilson: John Hardy, 2nd Lieut., Sherwood Foresters.
Wingate: Alexander, 2nd Lieut., 9th Highland Light Infantry.

STUDENTS.

Adams: Henry Eustace, Rifle Brigade.
Appleby: Sidney Derrick, 2nd Lieut., Loyal North Lancashire Regt.
Bagshawe: Arthur Samuel, Trooper, West Kent Yeomanry.
Bell: Edgar Alan, Lce.-Corpl., Staffs Regt.
Beville: Alfred Geoffrey, 2nd Lieut., London Regt.
Brundle: Henry Carleton, Lieut. (acting Capt.), Lancashire Fusiliers.
Chalkley: Thomas Henry, Lieut., Machine Gun Corps.
Davison: W. Rupert, Middlesex Regt.
Dixon: Cyril Burton, M.C., Captain.
Doe: Edgar Herbert, Private, Royal Berks Regt.
Dowsett: Thomas William, Sergt., Hon. Artillery Company.
Ford: Lawton Stephen, Lieut., Queen's Royal West Surrey Regt.
Freaker: Allen Lionel, Sergt., London Regt.
Formant: Edward George Dawson, Lce.-Corpl., 1st City of London Sanitary Company, R.A.M.C.
Gascoyne: Charles, Capt., Sherwood Foresters.
Gaskell: Reginald Robinson, Lieut., Royal Flying Corps.
Gordon: Donald Jervis, 2nd Lieut., Border Regt.
Hardman: Adrian T., Lieut., Royal Fusiliers.
Hillyer: William Harold, Capt., Royal Engineers.
Horsnell: Alick George, 2nd Lieut., Suffolk Regt.
Hough: Topham Becher Dabridgecourt, 2nd Lieut., 8th East Yorkshire Regt.
Irvin: John Hawksmore, 4th Bn., Seaforth Highlanders.
Jenkins: William M., Lieut., Welsh Pioneer Batt.
Knight: Philip, 2nd Lieut., King's Royal Rifles.
Lowrie: William John, Private, Seaforth Highlanders.
Lawson: F. H., Capt., 5th Bn. Northumberland Fusiliers.
Lawton: William Victor, Lieut., Royal Engineers.
McLean: James Monteith, 2nd Lieut., Highland Light Infantry.
Matthews: John Beedel, M.C., Capt., North Staffs Regt.
Moodie: John, 2nd Lieut., Seaforth Highlanders.
Moscrop: William Noel Jobson, Capt. and Adjt., 5th Durham Light Infantry.
Newbery: Charles Joseph, Private, 3rd Royal Fusiliers.
Paterson: Henry Franklin, Private, Hon. Artillery Company.
Penderel-Brodhurst: Bernard Richard, Lieut., Royal Engineers.
Pite: Horace Victor Walter, Lieut., Hampshire Regt.
Reynolds: John Eric, Lieut., Royal Air Force.
Shapley: Alfred Edwin, Lieut., Northumberland Fusiliers.
Stott: Alfred Edgar, King's Liverpool Regt.
Stuart: Alexander D., Lieut., Seaforth Highlanders.
Taylor: Martin Bartley, Private.
Turner: Thomas Edwin, Lieut., 13th County of London Regt.
Walch: James Bernard Millard, 2nd Lieut., 2nd Royal West Surrey Regt.
Walker: Denis H., Capt., 5th. P.W.O. Yorkshire Regt.
Waller: Thomas Jenkinson, 2nd Lieut., Northumberland Fusiliers.
Westwood: Walter R., 2nd Lieut., Royal Field Artillery.
Whitbread: Leslie George, Private, 1/6th Bn. Manchester Regt.
Whitehead: Henry Montagu, 2nd Lieut., 4th East Surrey Regt.
Woodhouse: Cecil Herbert, Capt., York and Lancaster Regt.
Woodley: Stanley W., 2nd Lieut., Royal Flying Corps.
Wray: Ernest Warneford, 2nd Lieut., Royal Engineers.

News Items

Cossington Parish Hall.

A new parish hall has been decided upon as the form of the local war memorial.

Architect's Change of Address.

The business address of Mr. H. A. Gold, A.R.I.B.A., is now 14, Bedford Row, W.C.1.

County Architect for Wiltshire.

Wiltshire C.C. has appointed a committee to enquire into the question of appointing a county architect.

Banff.

For important alterations on the Fife Arms Hotel, Banff, Mr. George Bennett Mitchell, architect, Aberdeen, has prepared plans.

Bishop's Stortford College.

A memorial hall and class-rooms are to be erected at an estimated cost of £20,000, about one-half of the sum being already in hand.

Sea Wall for Rhyl.

It has been decided to proceed with the scheme for the construction of a sea wall from the pier to the Beach Pavilion, and from the Pavilion for a considerable distance in the direction of Foryd; and the laying-out of the sands enclosed by the wall as tennis courts, bowling greens, lawns, and gardens. Sanction is given for the borrowing of the sums required to carry out the work.

Retirement from Board of Trade.

Mr. A. Barnes, I.S.O., the Accountant-General to the Board of Trade, has retired after completing forty-six years' service. The President of the Board of Trade has appointed Mr. H. Mead Taylor as successor to Mr. Barnes.

New Partnership.

Mr. Joseph F. Walsh, F.S.I., L.R.I.B.A., of 10, Harrison Road, Halifax, has taken into partnership Mr. George Maddock, P.A.S.I., L.R.I.B.A. The practice will be continued under the style or name of Walsh and Maddock, at the above address.

Non-Ferrous Materials.

The following particulars are published of the stocks (exclusive of old metal and scrap) in this country in possession of the Minister of Munitions on January 1, 1920. The figures given represent tons: Copper, 10,095; spelter, G.O.B., 10,318; spelter, refined, 9,754; aluminium, 7,084; soft pig lead, 54,975; nickel, 1,650; antimony regulus, 2,775. It must be noted that a proportion of the above stocks is already sold to the trade for forward delivery.

£2,000,000 Mersey Scheme.

The Bill to obtain powers to carry out extensive works of improvement on the Mersey has now been deposited for introduction into Parliament next session. The board have in contemplation the extension of the landing-stage at both ends to increase the berthage for ferry and ocean-going steamers, the erection of a new dock at the South end and other works. For the purpose of carrying out the scheme borrowing powers are asked for to the extent of £2,000,000.

Messrs. W. F. Blay, Ltd., and Skefko Works.

We regret that an unfortunate misprint occurred in the description of the Skefko Factory at Luton in our Special New Year's Issue (page 808), the name of the general contractors for the work having been given as W. F. Bray instead of W. F. Blay, Ltd. Through the transposition of a letter a small error also occurred, on page 824, in the title of the British Fibro Cement Company, for which we express our regret.

Famous City Hall.

The Bank of Italy has entered into an arrangement with the Merchant Taylors' Company to acquire the front of their hall in Threadneedle Street for business purposes. There is no intention of touching the ancient banqueting hall, which lies behind the frontage to the street, and is one of the largest in the City. Originally built in the fourteenth century, it was only partially destroyed in the great fire. It was rebuilt in such a way that the portions saved from the fire were retained, while the new masonry was made to harmonise with the old. The kitchen dates from the early days of the sixteenth century.

NORTH-WEST DOORWAY AND PLAN OF ST. AGATHA'S CHURCH, BIRMINGHAM.

(*See description on this page and plate on page 59*).

St. Agatha's Church, Birmingham

St. Agatha's Church the tower of which is illustrated on page 59, has been erected to the designs, and under the superintendence of, Mr. W. H. Bidlake, M.A., F.R.I.B.A., architect. In the "nineties" two churches in the centre of Birmingham, and the sites on which they stood, were sold, and the money obtained vested in the Committee of the Birmingham Churches Building Fund, who subsequently donated part of the money to the building of St. Agatha's. Seating accommodation is provided for 1,000 in the church, which is constructed of brindled brick with Bath stone dressings, and which is lined in the interior with light buff brick. The façade of the tower and the flanking porches face the Stratford Road. Owing to the prejudice against a morning chapel, a choir transept was substituted, and over this is placed the organ chamber, which is approached by a turret stair. The roof is of red pine, decorated in colour; the seats are of sequoia, and the sculptured tympana of the west doors represent episodes in the martyrdom of St. Agatha. Messrs. J. Bowen and Sons were the builders, and Messrs. Haden and Sons, of Trowbridge, were the hot water engineers. The large east window is filled with magnificent stained glass by Mr. Henry Payne and a large fresco, as a war memorial, has been painted in the choir transept by Mr. Ormond Gallins.

Town Development and Housing

Lincoln.

A loan of £250,000 is being asked for as a first portion of the £2,000,000 required.

Doncaster.

A tender of £2,979 for the erection of a pair of houses has been accepted.

Birmingham.

The Housing Committee is organising a staff to supervise the erection of its 3,000 houses.

Wrexham.

Approval has been given to the lay-out and house plans for the erection of 116 houses on the Acton Park site.

Coventry.

A scheme to build 128 houses in the Radford garden suburb has been postponed for further consideration.

Riccall.

Sixty more houses are being proceeded with on the Barlby site, in addition to the 300 already built.

Bentley.

Sanction has been received to the erection of six bungalows at an average cost of £500.

Torquay.

Approval has been received for the lay-out of the Westhill site, and tenders for the erection of houses are being considered.

Wakefield.

Considerable progress is being made with the sixty-four houses being erected on the Elm Tree site, and several of them are already roofed.

Gravesend.

A site of two acres has been given on which to erect homes for disabled soldiers and sailors. A sum of £4,000 is already in hand towards the cost of building.

Leeds.

The Corporation Improvements Committee has decided in favour of a scheme for the erection of 1,300 concrete cottages at prices varying from £700 to £800 each.

Ammanford.

It has been decided to request the assistance of the Divisional Housing Commissioner in order to choose among alternative sites.

Hinckley.

Meetings are being held between the local authorities and the master builders in order to arrange terms for the erection of cottages.

Barnstaple.

Local builders have already put in hand several blocks of houses, and are arranging for the local authorities to purchase them. The Corporation is also purchasing a site of six acres for building purposes.

Manchester.

A deputation of the Housing Committee is to visit various towns to inspect concrete houses, to obtain information to assist Manchester to decide upon a proposal to build 300 of this material.

Bermondsey.

A resolution has been submitted to the Borough Council, proposing a survey of all houses in the borough. It is proposed to take over all derelict houses and repair them, in order to relieve the housing shortage.

Plymouth.

The T.C. has recommended to the Ministry of Health a scheme, estimated to cost between three and four million pounds. The proposals include the erection of 4,500 houses of fifty-four different types, and sweeping away nineteen unhealthy areas covering forty-one acres.

Scottish Housing Schemes.

Various housing schemes in Scotland are now beginning. Among others, Carnoustie Town Council have approved of plans by Mr. J. P. Bonce, architect; and at Girvan sixty houses are being erected from plans by Messrs. Hutton and Taylor. Fully 200 houses will be built at Campbeltown from designs by Messrs. Clifford and Lunan, architects, Glasgow.

Nottingham.

The purchase of the Sherwood site has now been completed, and the lay-out has been provisionally approved by the Ministry of Health. The roads and sewers are to be constructed by direct labour under the supervision of the city engineer, at a cost of £23,000. Sanction to borrow this sum has been applied for. Tenders are to be invited for the erection of 242 houses as a first instalment. A proposal is being favourably considered to allot three acres as a site for a maternity hospital. Important proposals are being considered for the erection of big business premises on the Carter-gate site, on which condemned houses have been demolished.

International Housing Conference.

Delegates appointed by the Governments of the Allied countries will be present at the Inter-Allied Housing and Town Planning Congress, to be held in London in June next. Amongst the subjects to be discussed will be national post-war housing and town planning policies, the preparation and carrying into effect of national programmes to secure proper housing conditions, standards of building construction, and national and regional town planning developments. The congress will be asked to determine the minimum accommodation which should be provided for a normal working-class family, and the best courses to adopt in order to encourage the development of new methods of building and the use of new material.

Irish Building Materials.

The Joint Committee of the Royal Institute of Architects of Ireland and the Dublin Industrial Development Association, in their interim report, regret that they are unable to report any practical advance in promoting the use of native materials, or evidence of any encouragement to produce in Ireland materials used in the building and kindred industries. The Committee were informed that Sir James Carmichael's Committee would visit Ireland and take oral evidence in relation to building materials, but so far as they are aware, this visit has not yet materialised. The points which the Committee desired to urge upon the Chief Secretary's attention were: 1. The necessity of Irish evidence being taken by an Irish Committee. 2. The essential difference between "reconstructing" and creating and stimulating industries. In Ireland the creation of industries is necessary. 3. To complain of the delay in the formulation of a reconstruction scheme for Ireland, the English Building Materials Committee having been appointed so far back as 1917. 4. To press for the allocation of a fair share of building materials not produced in Ireland, and to urge the necessity for encouraging the manfacture of cement, bricks, fireclay goods, etc., in this country. Since the early part of the present year nothing has been heard on these matters. The failure to encourage manufactures in Ireland has contributed to the present high cost of building. Such things as cement, steel, etc., are very much dearer in Dublin than in London.

East End of London Housing.

Protests have been made against the proposal of the Post Office to erect a new telephone exchange for the Spitalfields area. In order to carry out the scheme it will be necessary to demolish thirty houses situated in three streets. In 1915 the Post Office began the purchase of the houses, and, as the leases fell in, refused to relet them, and have served notices to quit on the remaining tenants. The tenants of the houses still occupied held a meeting under the chairmanship of Councillor John R. Raphael, who said that of the houses it was proposed to demolish seventeen were unoccupied. The remaining thirteen were occupied by nineteen families totalling 117 persons. The seventeen unoccupied houses could easily be made habitable. The Mayor of Stepney proposed a resolution denouncing the demolition of the houses, and calling the attention of the Government to the already serious overcrowding of the locality, and demanding that the houses that had designedly been kept empty should be made available for dwellings. The locality was already overcrowded. There were plenty of other sites on which the exchange could be built. The resolution was carried, and it was decided to send copies of it to the Prime Minister, the Postmaster-General, and the Minister for Health.

Scottish Labour Housing Association.

Presiding at the annual conference of the Scottish Labour Housing Association in Glasgow, Bailie Wheatley (Glasgow), said that over 4,000 families, mostly houseless, were on the Corporation's waiting list for houses to be built. Practically every house in Glasgow was now occupied, and the density of the population was appalling. During the past year more garages than houses had been erected in Glasgow and Edinburgh. They should consider first in adopting a policy the capturing of the land for the people immediately by any and every means; the creation of a Scottish municipal bank, the establishment of public works for the manufacture of material, the abolition of speculative building contractors, and the substitution of municipal departments, or direct contracts with the trade unions; and the boycotting by the trade unions of luxury building until every family had a healthy home. The conference adopted resolutions asking Scottish public authorities to establish a National Scottish Bank to finance the housing schemes. The conference also adopted resolutions favouring the acquisition of land for housing on payment of the rateable value of the land and the establishment by public authorities of works for manufacturing building materials. Another resolution asking that profiteering in land, building material, or money be made a criminal offence against the welfare of the people, was also adopted. Mr. John Robertson, M.P., said that a man who knew something of building material, to whom he had remarked that local authorities should get possession of the rubbish heaps familiar at all colliery districts and use them for making bricks, told him that syndicates had got there first.

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing. These lists are strictly copyright.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR.	
Excavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
Labourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Navvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
Timberman, 1s. 9d. per hour.	In underpinning, add 120 per cent.
Scaffolder, 1s. 9d. per hour.	In rock, including blasting, add 225 per cent.
Watchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
Broken brick or stone, 2 in., 7s. per yd.	Headings, including timbering, add 400 per cent.
Thames ballast, 17s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Pit gravel, 16s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Pit sand, 17s. per yd.	Planking, 5½d. per ft. sup.
Washed sand, 18s. 6d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Screened ballast or gravel, add 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Do. 6 in. thick, 2s. 9d. per yd. sup.
Portland cement, 75s. per ton.	Puddling, 30s. per yd. cube.
Do. in small lots, ex London stock, 95s. per ton.	Cement concrete, 4.2.1, 52s. per yd. cube.
Lias lime, 59s. per ton.	Do. 6.2.1, 49s. per yd. cube.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in upper floors, add 12½ per cent.
Transport hire per day:	Do. in ferro concrete work, add 20 per cent.
Cart and horse, 26s.	Do. in underpinning, add 50 per cent.
3-ton motor lorry, £6.	Lias lime concrete, 40s. per yd. cube.
Steam lorry, 5-ton, £7.	Breeze concrete, 25s. per yd. cube.
Trailer, 30s.	Do. in lintols, etc., 4s. 6d. per ft. cube.
Steam roller, £4 10s.	
Water cart, 30s.	
DRAINER.	
Labourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 9d., 6-in. 4s., 9-in. 5s. 3d. per ft.
Timberman, 1s. 9d. per hour.	Cast-iron drains, jointed in lead, 4-in. 8s., 6-in. 14s., 9-in. 25s. per ft.
Bricklayer, 1s. 11½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. per hour.	
Watchman, 6s. 6d. per shift.	
Stoneware pipes, tested quality, 4-in. 2s. 11d., 6-in. 4s. 6d., 9-in. 7s. 9d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 3s. 9d., 6-in. 5s. 6d., 9-in. 8s. per yd.	
Portland cement and sand, see Excavator above.	
Lead for caulking, 42s. per cwt.	
Basket, 1s. 8d. per lb.	
BRICKLAYER.	
Bricklayers, 1s. 11½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £42 per rod.
Labourer, 1s. 8d. per hour.	Do. in cement do. £45 per rod.
Scaffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
London stocks, 83s. per M.	Do. in blues, add 320 per cent. per rod.
Flettons, 65s. per M.	Do. circular on plan, add 12½ per cent. per rod.
Staffordshire blue, 190s. per M.	Facings, fair, 3d. per ft. sup. extra.
Firebricks, 205s. per M.	Do. picked Flettons, 4d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £24 per M.	Do. picked stocks, 6d. per ft. sup. extra.
Do. headers, £23 10s. per M.	Do. Salt, white, or ivory glazed, in areas, 5s. 6d. per ft. sup. extra.
Colours, extra, £6 per M.	Struck pointing, 4d. per ft. sup. extra.
Seconds, less, £1 per M.	Tuck pointing, 10d. per ft. sup. extra.
Cement and sand, see Excavator above.	Weather pointing, 4d. per ft. sup. extra.
Lime, grey stone, 58s. per ton.	Granolithic and cement paving, 1-in., 4s. 6d. per yd. sup.
Fixed lime mortar, 23s. 6d. per yd.	Do. 1½-in., 5s. 3d. per yd. sup.
Damp course, in rolls of 4½ in. 3s. 6d., 9 in. 6s. 3d., 14 in. 8s. 6d., 18in. 11s. per roll.	Do. 2-in., 6s. 3d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 10d. per ft. sup.
	Do. vertical, 1s. per ft. sup.
	Slate damp course, 1s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 9s. per yd.
	Do. skirting, 6-in., 1s. 3d. per yd.
MASON (INCLUDING SLATE).	
Mason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3d. per ft. cube.
Do. fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
Scaffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
Portland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 2d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 5d. per ft. cube.	Joints, arch, 2s. per ft. sup.
Bath stone, 2s. 10d. per ft. cube.	Do. sunk, 2s. per ft. sup.
York stone, 7s. 3d. per ft. cube.	Do. do. circular, 2s. 8d. per ft. sup.
Do. paving, av. 2 in., 7s. 6d. per yd. sup.	Circular-circular work, 10s. 3d. per ft. sup.
Mansfield red, 6s.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run.
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone, 25 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
(Usual trade extras for large blocks.)	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 69s. 6d., Countess 77s. 6d., Duchess 83s. per square.
Tiler, 1s. 10½d. per hour.	Westmoreland, in diminishing courses, 135s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 70s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 4s. 3d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16, Countess £30, Duchess £45.	Double course at eaves, 9d. per ft. approx.
Clips, lead, 9d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 80s. per square.
Clips, copper, 2s. 3d. per lb.	Do. machine-made do. 72s. per square.
Nails, compo, 47s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 121s. 6d. per M.	
Machine tiles, 112s. per M.	
Westmoreland slates, large 247s. per ton, Peggies 187s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 11s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 11s. 6d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 11s. 10d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per ft. cube.
Archangel:	Sarking felt laid, 1s. 6d. per yd.
1st £52, 2nd £49 10s., 3rd and U/S. £47 10s. per std., equals	Centering for concrete, etc., including horsing and striking, 70s. per sq.
1st 6s. 4d., 2nd 6s., 3rd and U/S. 5s. 9d. per ft. cube.	Slate battening, 23s. 6d. per sq.
Boards, 1st £53 10s., 2nd £51 3rd and U/S. £48 10s. per std.	1-in. deal gutter board on firring, 92s. 6d. per sq.
Do. F.E., 3rd and U/S. £43.	1¾-in. molded casements in 4 sq., glazing beads and hung, 3s. per ft. sup.
Battens, 3rd and U/S. £38.	2-in. do. do. 3s. 6d. per ft. sup.
Yellow: 1st £62, 2nd £51, 3rd and U/S. £47 10s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 3d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 3s. 3d. per ft. sup.
Boards, planed, U/S. £46 per std., equals 47s. per sq. of 1 in.	Do. do. do. 1½-in., 2s. 6d. per ft. sup.
Flooring, P.E., U/S. 42s. 6d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 43s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. per ft. sup.
Wainscot, oak, 3s. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 3s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 3s. 9d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 8s. 6d., 1-in. 10s. 6d., 1¼-in. 13s. 6d. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1½-in. tread, fixed, 4s. per ft. sup.
	2-in. deal strings, fixed, 3s. 9d. per ft. sup.
PLUMBER.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 58s. 3d. per cwt.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 1s. 7½d. per ft.
Lead, milled sheet, 49s. per cwt.	Do. ¾-in., 2s. per ft.
Do. drawn pipes, 49s. 6d. per cwt.	Do. 1-in., 2s. 5½d. per ft.
Do. soil pipe, 53s. per cwt.	Do. 1¼-in., 2s. 10½d. per ft.
Do. scrap, 25s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 7s. 6d. per ft.
Copper, sheet, 2s. 7d. per lb.	Do. 3-in., 8s. 4d. per ft.
Solder, plumbers, 1s. 4d. per lb.	Do 4-in., 11s. per ft.
Do. fine, 2s. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in. 2s. 3d. per ft.
Red and white lead, 7d. per lb.	Do. 3-in. 2s. 7d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 3d. per ft.
L.C.C. soil, 2-in. 4s. 10d., 3-in. 7s. 3d., 4-in. 8s. 4d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 9d. per ft.
R.W., 2-in. 3s. 10d., 3-in. 5s., 4-in. 6s. 2d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. per ft.
Gutter, 4-in. H.R. 3s., 4-in. O.G., 3s. 4d. per yd.	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 42s. each.
	Baths only, with all joints, 33s. each.
	Lavatory basins only, with all joints on brackets, 25s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4d., 26 oz. 1s. 5½d., 32 oz. 1s. 7d. per ft.
Glass:	
Clear, 21 oz. 9½d., 26 oz. 10½d., 32 oz. 1s. per ft.	Glazing in beads, 21 oz. 1s. 2d., 26 oz. 1s. 3d., 32 oz. 1s. 4d. per ft.
Cathedral, ordinary, 9d. per ft.	Patent glazing in rough plate, normal span, 1s. 10d. to 2s. 2d. per ft.
Do. double, 1s. per ft.	
Rough plate, ⅛ in. 5d., 3-16 in. 5½d., ¼ in. 6d. per ft.	
Linseed oil putty, 33s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 3s. 9d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. per yd.
Chalk lime, 60s. per ton.	Do. vertical, 3s. 3½d. per yd.
Hair, 30s. per cwt.	Render, on brickwork, 1 to 3, 3s. 9d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 4d. per yd.
Lime putty, 4s. 9d. per cwt.	Render, float, and set, trowelled, 4s. per yd.
Hair mortar, 43s. per yd.	Render and set in Sirapite, 3s. 7d. per yd.
Fine stuff, 44s. per yd.	Do. in Thistle plaster, 3s. 2d. per yd.
Sawn laths, 3s. 6d. per bdl.	Extra, if on lathing, any of foregoing, 6d. per yd.
Keene's cement, 84s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 60s. per ton.	Angles, rounded, Keenes on Keenes, 9d. per ft. lin.
Do. fine, 61s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3d. per ft. lin.
Plaster, 57s. per ton.	White glazed tiling set in Portland and jointed in Parian, 33s. per yd.
Do. fine, 58s. per ton.	
Thistle plaster, 56s. per ton.	
Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 10d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 3d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. per yd. sup.
Genuine white lead, 78s. per cwt.	Do. subsequent coats, 10d. per yd. sup.
Linseed oil, raw, 10s. 3d. per gall.	Do. enamel coat, 1s. 6d. per yd. sup.
Do. boiled, 10s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. per yd. sup.
Turpentine, 9s. 9d. per gall.	Figured do. do. 7s. 6d. per yd. sup.
Liquid driers, 19s. 6d. per gall.	French polishing, 1s. 5d. per yd. sup.
	Stripping old paper and preparing, 2s. per piece.
	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Distemper, washable in ordinary colours, 52s. per cwt.	
Petrifying liquid, 3s. 3d. per gall.	
Double size, 6s. 4d. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping 7d. per lb.	
Varnish, hard oak, 18s. per gall.	
Do. Outside do., 18s. 6d. per gall.	
Do. Copal, 21s. per gall.	
Do. Flat, 21s. per gall.	
Do. Paper, 21s. per gall.	
French polish, 23s. 9d. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £46 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £34 per
Erector, 1s. 10d. per hour.	Do. in compounds, £38 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £37 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buil in, 56s. per cwt.
Mild steel in British standard sections, £30 per ton.	Do. in light railings and balusters, 75s. per cwt
Cast-iron, heavy	Fixing only corrugated sheeting, including was and driving screws, 1s. 3d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £37 per ton.	
Do. Galvd., £48 per ton.	
Corrugated sheets, black*	
Do. Galvd., £48 per ton.	
Driving screws, galvd., 5s. 3d. per grs.	
Washers, galvd., 1s. 9d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	

Society of Architects' Luncheon

Viscount Astor, Parliamentary Secretary to the Ministry of Health, was the chief guest of the Society of Architects at luncheon at the Trocadero Restaurant last week. The occasion was taken to bring to the notice of the Government the Society's views on the housing question.

Mr. E. J. Sadgrove, the President of the Society, in proposing the toast of the guests, remarked that, concerning the housing scheme, there had been more brick heaving than brick laying, or as the Society put it, more destructive than constructive criticism on the subject, but it was one of the objects of the Society's gathering that afternoon to endeavour to put forward some constructive policy. An important step in this direction was the formation of the Industries Consultative Board, representing practically the whole of the constructional side of building. The Board has just issued a memorandum, and Mr. Sadgrove thought that special attention should be given to the clause which called upon every member to speed up production. Already much good work to that end had been done through round-table talks among all concerned, condemning limitation of output. What was wanted was an educational propaganda through the agency of level-headed operatives among their own men, in order to increase production for their own and the nation's benefit. Mr. Sadgrove thought it was very advisable to revive the old doctrine that every man be free to use as he chooses the talent with which his maker has endowed him, and the only limit to his reward shall be his ability to earn it. The Government should take in hand a "wake-up" propaganda, aided by the Press, to change the views of the operatives. So far as actual building was concerned, the three most important factors were architects, building contractors, and operatives. Speaking for architects, their forces were already mobilised by the professional societies and available to be more fully used for the good of the country, but he wished to insist upon the point that it was by a combination of the forces contained in the directing, constructing, and operative sides of the building industry that the final solution of the problem lay.

After Sir Charles Ruthen, senior Vice-president of the Society, had supported the toast, Viscount Astor replied. He said that, while our country had made its name and wealth by individual efforts, yet in the present complex and difficult situation a measure of Government control was inevitable. He justified the action of the Ministry of Health in maintaining a standard of accommodation in the new housing schemes, particularly regarding cottages for agricultural labourers. The shortage of skilled labour was the most serious difficulty, but it would be futile to imagine there is a large reservoir of skilled labour now employed on luxury building and which could be diverted. Moreover, it was not in the national interest that the erection of factories should be hindered. For the guidance of all concerned the Ministry hoped to have museums in London and throughout the country—bits of land, five or ten acres, where new types of houses would be put up, so that architects, builders, and the general public could see exactly what these new types were like. Viscount Astor appealed to architects to give unprejudiced consideration to new materials and methods of construction, and not to be easily alarmed by the word "sta ardisation." He concluded by observ that the Ministry of Health greatly val the assistance they had already recei from architects. The appearance of country was in their hands.

Mr. Walter Cave, Vice-presid R.I.B.A., and Mr. E. J. Hill, Presid of the Institute of Builders, also spo Sir James Carmichael, in proposing toast of "The Society of Architec appealed to architects to aim at simpli and economy in the design of workme cottages, because many schemes w being delayed through expen elaboration.

Our Small Advertisemen

Several openings for architects architects' assistants are announced week.

Bexley U.D.C. invite applications fr architects prepared to take charge of t housing scheme.

Architectural assistants are required Rochdale Corporation in connection w a housing scheme by Stoke-on-Trent C poration, and by a general practitioner Langley Moor, Co. Durham.

Westland Aircraft Works, Yeovil, vertise a quantity of surplus machine t and stores for sale.

The date for the examination of ca dates for Graduateship and Associa Membership of the Concrete Institute announced.

Builders are invited to tender for erection of a new anthrax disinfect station at Liverpool for a large num of houses and shops at King's He Birmingham, and for the enlargement the County School for Girls, Dartf Kent.

Wednesday, January 21, 1920

Volume LI. No. 1307

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

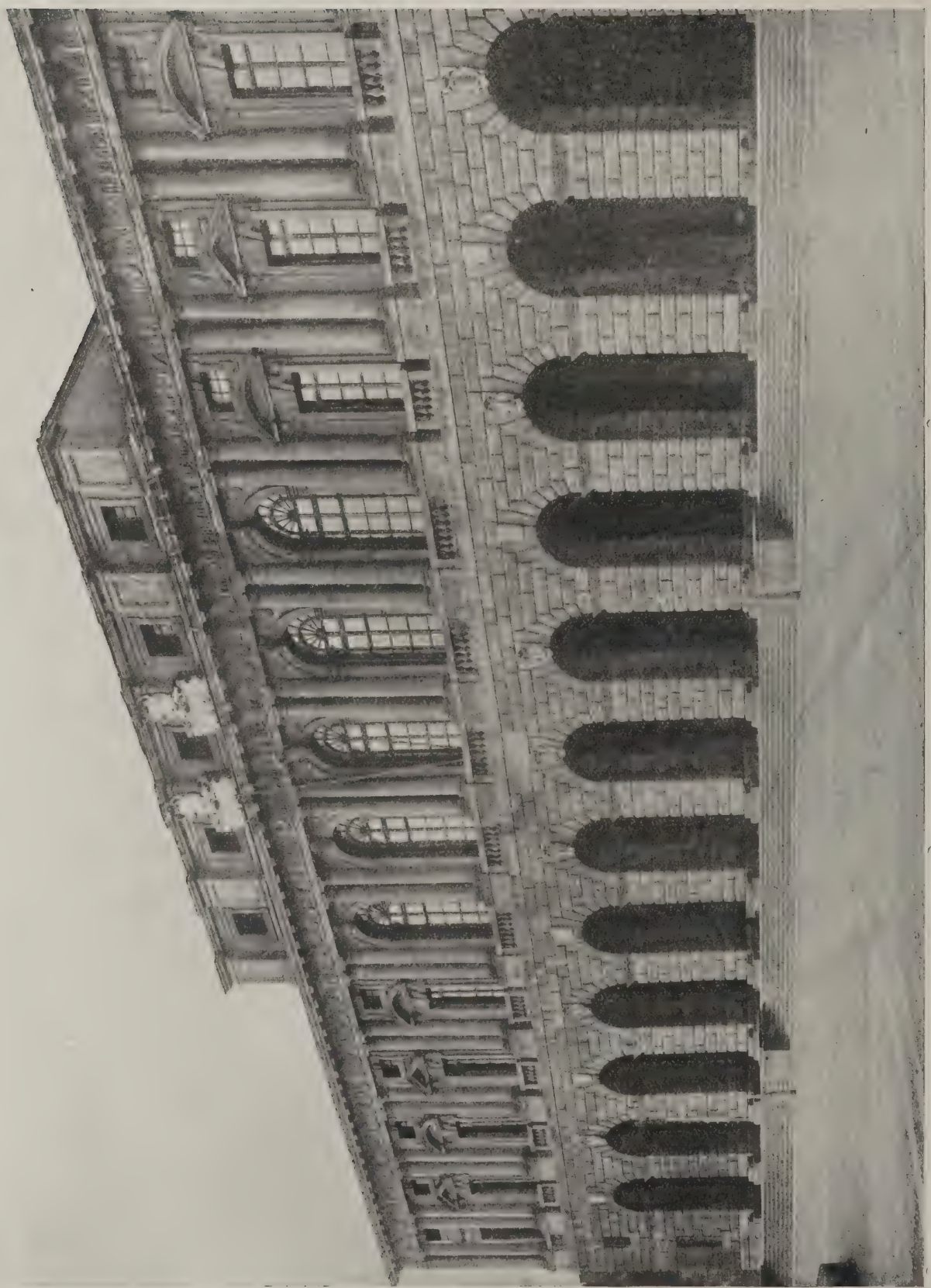
COMPOSITIONS BY BOUCHET (XII.).

27-29 Tothill Street, Westminster, S.W.1.

c

Palazzo della Gran Guardia Vecchia, Verona (commenced 1609)

D. Curtani, Architect.



Although this façade belongs to the period of the decline of the Italian Renaissance, its grandeur of conception and excellence of composition render it a favourite theme with architects. Sir William Chambers doubtless had this front in mind when he evolved the Strand façade to Somerset House.

THE
ARCHITECTS' JOURNAL
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How to Modernise Church Design

JUDGING from such church papers as come our way, and from passing references in the secular Press, it would appear that the clergy of all denominations are deeply concerned at a falling away, on the part of the general public, from attendance at Divine worship, for picture-house and music-hall, however, do not show, so far as we are aware, any parallel loss of support.

Now to what degree the churches can hope, or even desire, to rival these cheerfully pagan institutions in popularity is a theme outside the range of an architect; it calls for the wisdom of an archangel rather, or, at least, of an archdeacon; but an architect may be forgiven for wondering whether, if such rivalry can be supposed to exist, the churches do not avoidably handicap themselves in the race, and whether architects may not be in some measure to blame as accessories before the fact.

Not overlooking for one moment the very different motive which does or should prompt attendance at these diverse places of assembly, let us consider, for example, a modern music-hall, for it will be understood that the architect's business is not with shibboleths, but with more material issues. The music-hall is well lighted, and attention is paid to heating and ventilation without draught. Every sitting commands a full and unobstructed view of whatever is going on, and each sitter has a separate and comfortably upholstered seat. Cloak-rooms and lavatories, in the extended modern meaning of the term, are commodiously to hand. The music is the work of trained executants, and those who say or sing have necessarily been at the pains to learn how to make themselves heard and understood, and how to make their points with certainty and precision. *Mutatis mutandis*, the same observations apply to the picture-house, and the visitor can spend an hour or two in either, his body at ease, and himself, therefore, free to relish whatever of intellectual or other nourishment is put before him.

Contrast the prevailing type of church; the floor obstructed by piers; lighting, heating, and ventilation imperfect, and draughts mightily prevailing; for seating, either a rock-bound bench or an unstable and inadequate chair; kneeling a difficulty—we even know a cathedral in which it is all but impossible; no provision for the requirements of body or raiment, amateur music insufficiently rehearsed; and last, but not least, the officiant untrained in voice, articulation, or pointed speech. What wonder, then, that a public, accustomed to lavish consideration in such matters elsewhere, votes church-going an uninviting business

There are many reasons for this state of affairs, but the chief is, in the opinion of the present writer, a false mediævalism. It is easy to understand that when in the nineteenth century the Church of England rose in revolt against smug conventionality, and looked back for inspiration to the Middle Ages, the mediæval type of church was studied with enthusiasm and closely imitated; so much so that it remains to this day the standard, despite the attempts, happy or otherwise, of a handful of hardy innovators. But it was forgotten that in old times the church fabric was not only the most lovingly elaborated building in the parish, but also the most luxurious. An oak bench, though it might present a sharp moulding to the shoulder-blades, gave delicious ease to a man used perhaps to sit with dogs on a dirty floor, and to whom a sound roof and glazed windows were the last words in solid comfort; while lack of lavatory accommodation troubled our ancestors little or not at all. Indeed, though mortification of the flesh might be undertaken under special direction for special ends, discomfort was no part of mediæval piety; and the lurking and not uncommon fear that comfort is sinful is really rank heathenry. The mediæval builder was, above all things, up-to-date and progressive, and hastened to adopt improved constructive methods and novel fittings as they became known. The dead hand in art did not exist for him.

In the modern church, then, no less care must be bestowed on lighting, heating, and ventilation, than in any other public building. As for piers they are a clumsy device for reducing roof-spans, and in these times, when any reasonable span can be roofed without difficulty, they have no justification. There is no reason but prejudice why the sittings should not be, as in other buildings, arm-chair stalls with cushioned tip-up seats, the invention, by the way, we believe, of the old monks or canons. A vacuum cleaner is a simple necessity. Then there must be cloak-rooms; no one can pray in a constant fuss over hat or umbrella. One or two water-closets must be found in some handy place; the lack of this elementary provision makes church-going impossible or a painful anxiety to many old people and invalids; and it may be remarked that, by an odd paradox, the knowledge that such things are at hand takes away largely the wish to use them.

As regards kneeling we admit ourselves beaten; no satisfactory appliance is known to us. It was all very well for the saintly Herbert to say "Kneeling ne'er spoiled silk stocking"; but the section of the race which now affects silk stockings as yet hardly shows the knee, while kneeling on any arrangement we have come across does play the deuce and all with a pair of Sabbath continuations.

Except in places where they really do sing, a choir is, in the writer's opinion, a nuisance, and would be best relegated to a gallery at the west, together with the organ, if organ there must be. The cost of an organ would often go a long way towards providing a little band; and if this were too risky, a good gramophone would set the tunes and chants far better than an indifferently-played organ, and at a comparatively negligible cost. If there were no obtrusive choir the need for a long chancel would disappear with it; the officiating ministers would be placed on a platform, so as to be well seen and heard; no pulpit would be wanted. Eastward of the clergy there need be a sanctuary only, with space enough for communicants, and the Holy Table would thus be brought forward, and become, as it should be, the visible focus of the building. There might be a screen which could be

lowered in front of the sanctuary for use with a lantern—a thing of the highest value, as those who have tried it know. Towers and bells, except in special cases, are anachronisms; people can find their way to other resorts without these reminders; though the late Fulham Theatre used, if memory serve, to boast a ring of tubes; other theatres have not found it essential to follow the lead, for which we cannot be too thankful.

There are many other points in relation to rational church-planning on which we might touch; we may say, however, in conclusion, that if we have had in mind chiefly Anglican church buildings it is because the revival of church architecture in England has been mainly an Anglican movement; the Roman Catholics have followed generally the same lines; and it is interesting to notice how more and more the Nonconformists seem to be inclining towards the Anglican model in the design of their churches.

V.

Notes and Comments

The Growing Interest in Architecture

UNMISTAKABLE signs point to the rapid growth of the public interest in architecture. The launching of several new periodicals in which the home and its accessories are predominant features, the issue by "The Times" of a special housing supplement, the organisation by certain London and provincial newspapers of "Ideal Home" and similar exhibitions—these phenomena all point to the same general conclusion, namely, that the housing agitation, with its innumerable speeches in and outside Parliament, and the universal Press commentary on the movement, have forced the public to recognition that not only housing but inferentially architecture also, is of national interest and importance. What will be the immediate effect on architecture? First fruits of it should be greater respect for the architect. Government having discovered—mainly by reading about it in the newspapers—that the architect is a valuable asset to the nation, the public accept the revelation, not without surprise inadequately concealed. Since public interest in one's work, intelligent sympathy with one's aims, are strongly stimulating, a further consequence will be a higher standard of effort and achievement in architecture. Public interest is all to the good. Let us endeavour to maintain it.

Railways and Building Materials

Does the increase in railway rates affect seriously the cost of building? An apparently "inspired" paragraph in the newspapers says No. This conclusion is based on a calculation by the Scottish Board of Health that the materials for a six-roomed house weigh 130 tons; the inference being that the total increased cost of carriage for all the materials for such a house, situated at Southall, nine miles from Paddington would be only £8 1s., "which is," we are solemnly informed, "very much below the estimate of a builder, recently published, putting the figure at £35 to £44." If you can obtain your bricks, sand, ballast, and rubble locally, says this fine official humourist, the increased cost of carriage on the remainder of the materials would be no more than £4 12s. 2d.

The Architect's Offices

A correspondent invites our opinion on what an architect's office should look like—a well-garnished snuggery or a bare and businesslike workroom. It shall be like each or neither, as occasion requires. Our correspondent seems to share the common forgetfulness that architects are of various types and proclivities, and rather tend to specialise on different classes of work. Their offices naturally assume a corresponding complexion; for while he who disdains to design anything less dignified than a country mansion will be wise to receive his clients in an apartment that reflects solid comfort combined with good taste, the specialist in textile factories would be careful not to reveal through his office appointments his secret leaning towards super-æstheticism. And of course there are all grades between these extremes. On the one hand, the client would be reassured by seeing his architect surrounded by evidences of taste, on the other he would prefer suggestions of downright practicality. The "general practititioner" will adopt a neutral attitude, equally cognisant of art and of industry, but stressing neither. That is the best general advice we can give in the space at command; for the subject could easily be developed into a long article. Possibly we may be able to find space in which to do justice to a subject that certainly deserves attention.

No Skyscrapers for London

Sanguine persons are again advocating the admission, under the London Building Act, of the tall buildings known as skyscrapers. We can very well do without such monstrosities, and the London limitation of height to 100 ft. is not at all likely to be altered except perhaps by a slight reduction. That we do not want London to begin to look like a feeble imitation of New York may be set down to sentimental or insular prejudice; but there are more practical objections, among them being the multiplication of fire hazards and the conversion of London streets to sunless alleys, dank and noisome and unhealthy. In New York this deplorable condition is accepted because that city has no possibility of extending in any other direction than skyward. For skyscrapers in London there is no excuse whatever—not even the allegation that they can be invested with something that is thought to resemble architectural character, although it is impossible to test this statement without using a telescope and risking crick in the neck. Even in New York the skyscraper has had its day, the recently amended building regulations of that city having decreed that no more shall be built.

Conversion to Flats

Having repeatedly called attention to the merits of early nineteenth-century houses that have suffered neglect, we are the more gratified to note that our advice to put them in repair and adapt them to modern requirements is being put in practice. Such houses, many of them of excellent design and sound construction, have been in almost innumerable instances put to uses for which they were never intended. Built to accommodate only one comparatively well-to-do family, they are now commonly overcrowded by the poor, by whom they get badly knocked about, and for whom the landlord is very reluctant to effect repairs. Consequently many of them have become exceedingly shabby, and some are in a fair way to qualify as dangerous structures within the meaning of the Act. Early nineteenth-century houses abound in the suburbs—at Blackheath, for instance, where, however, the buildings have not been allowed to fall into disrepair, but where, as throughout London's outskirts, the motor-car has taken the wealthy inhabitants—merchants and the like—farther afield, while the "salariate" cannot afford to live in large houses. In these changed social conditions the best course is to convert the old houses into flats, and at Blackheath this is being done extensively, and in most instances with due regard for the excellent façades, which are left unaltered, which means unspoilt.

A Hint to Sanitary Engineers

It is time that our sanitary engineers bestirred themselves. They are letting the foreigner get ahead of us. Americans, for instance, visiting this country, are loud in complaint that our sanitary appointments are not up to the standard of comfort to which they are accustomed in the States. They admit the excellence of our workmanship, but declare that we are deficient in "notions." They add that while our materials, whether earthenware or metalwork, are of the highest quality, our designs in them are detestable. They do not know, they say, why it is that the mere sight of an English bathroom always gives them the cold shivers. Neither the low temperature nor the ugly shapes would sufficiently account for the symptom, but the combination is a freezing mixture. In an American bathroom the dishes are all fixtures, parts are made integral wherever possible to minimise jointing (and subsequent leaking!), and all unsightly things that can be concealed are kept out of sight. Are original pioneers in sanitation going to let the Americans beat them in bathroom arrangements? As an ultimate issue it is not likely, but, for the moment, it is happening; and the sanitarian would do well to design in closer association with the architect.

Against Rebuilding Ypres

Lieut.-Colonel Beckles Willson, whose lectures on the Ypres salient have attracted much attention, is very positive in the opinion that Ypres should not be rebuilt. In the first place, the site is bad, the swampy ground necessitating, in many instances, pile foundations; and Colonel Willson declares that Ypres was a "dead city" even before the war, and that there can be no reason for reconstructing it. The Cloth Hall and St. Martin's are not to be rebuilt, but the colonel is in dread that trips will be run to the ruins, and that restaurants and estaminets will be allowed to sprawl all over the Grand Place, which, all right-thinking persons will agree with him, should be kept sacred as "a spot in whose defence a quarter of a million of brave men laid down their lives."

The Fate of Large Estates

Another large estate—Witley Court, Worcestershire—is, at is stated, about to be sold by its owner, the Earl of Dudley. The price is said to exceed a million sterling, which is no great advance on the 890,000 paid for it to the fourth Lord Foley in 1839, considering that the then purchaser, the late Lord Dudley, spent a huge sum in enlarging the mansion, which stands in extensive grounds renowned for their beautiful fountains designed by Nesfield, while the park is famous for its gigantic oaks. Thomas Foley, M.P. for Worcestershire, who during the Civil War had made a large fortune from his ironworks, bought the estate in the seventeenth century from the Cookseys. Whether or not this estate will be cut up and built upon remains to be seen; but the mere rumour of its hereditary owner's intention to relinquish it is symptomatic of a marked modern movement. Everywhere the great estate is threatened with decimation, which implies that the land will be turned to profitable use instead of lying idle.

The Site of the Cenotaph

With more regard for sentiment than for safety, the Government have persisted in their decision to rebuild the Cenotaph on its present site. This course was opposed both by the Westminster City Council and the Metropolitan Police on purely utilitarian grounds, and æsthetic opinion has it that the structure does not "compose" well with its present surroundings, which rather tend to dwarf it. In answer to the objection that the structure interferes with the traffic, it is not sufficient to show that the monument is narrow and the street is wide. The gravamen of the charge is that persons perpetuating the habit of laying flowers on the pedestal, and those merely seeking to inspect at close quarters, not only slow down the incessant streams of traffic, but cross it at great risk of life and limb. As these evils will not diminish as time goes on, it is no very daring prophecy that ultimately the Cenotaph will have to be removed to some spot more favourable to quiet contemplation. This could be done more economically—in human casualties as well as in other respects—now than hereafter. By the way, the present excellent condition of the Cenotaph is a convincing proof of the durability and "weathering properties" of the fibrous plaster of which it is made.

"Is There a Housing Problem?"

This rather startling heading to a letter in a daily newspaper is followed by a recital of the achievements of a number of persons who, on the failure of the State and the local council to supply them with houses, determined to help themselves, and formed a public utility society with that object. Within a month, and within twelve miles of London, they got land enough for 250 houses, with a call on an acreage sufficient for a town of ten thousand houses. Labour and materials are ample. In the result, says the writer of the letter, "we are able to supply our members with seven-roomed houses and a large garden, as suburban gardens go—approximately twenty rods, or twice the average allotment garden at £1,150 freehold, less the Government bonus of £150, and smaller houses at a price which works out at actually less than the price of wooden houses." Presuming that these statements are authentic (and there is no particular reason to doubt them), the figures indicate clearly enough that the question that heads the letter is certainly justified, and that though one may not say positively that "The answer is in the negative" one may point to the encouraging conclusion that the difficulties of the problem yield gracefully to energy and determination.

British Glass Industries

It is a grave scandal that before the war we had become almost entirely dependent on foreign countries for our supplies of glass. When imports ceased, the shortage became extremely embarrassing; and when the Silvertown explosion shattered thousands of windows there was not sufficient glass in the country to mend a hundredth part of them. For many months windows remained boarded up because no glass could be had. That this state of things shall never happen again there is some guarantee in the combination of British Glass Industries, Ltd., with United Glass Bottle Manufacturers, Ltd.; for though the title of the latter company conveys a hint that does not encourage the idea of ample supplies of British sheet and plate, misgiving on this point is to some extent allayed in the statement by Sir Francis Towle, a director of one of the companies. "This amalgamation," he said, "possesses the patents of practically all the modern automatic machinery for making glassware of every kind, including bottles, jars, and window-glass." Architects, we are sure, will be very glad indeed to encourage this revival of a British industry that had well-nigh suffered extinction through the unfair competition of foreign manufacturers.

R.I.B.A Prizes and Studentships

The awards of the R.I.B.A. Prizes and Studentships, which are announced as we go to press, are given on page xxii. In our next issue we shall publish reproductions of the various designs, and hope to include, also, a special critique of the exhibition. The drawings are now on view at the R.I.B.A Galleries, 9, Conduit Street, W.

Architectural Causerie

NOT least among the many national drawbacks needing redress is the wasteful neglect of the system of inland waterways. The issue is recognised as momentous, and no doubt all sorts of propositions for increasing the efficiency of the canals lie neatly taped and parcelled, docketed and endorsed, and there an end, in the pigeon-holes at the Ministry of Transport.

* * * *

In the earliest times canals were used chiefly for irrigation and drainage. At a later period their advantage for the transport of merchandise became obvious, and we have the authority of Herodotus and Strabo regarding the canal across the isthmus of Suez, begun by Nechs, in the sixth century B.C. The Egyptians were the first to realise the value of the artificial waterway, unless the Chinese forstalled them, for there remains the Imperial Canal of China, which flows from Hang-chau to Sinting, besides intersecting the Yangtse-Kiang during its progress of six hundred and fifty miles. No great engineering advance in the construction of artificial waterways, or effort to revolutionise the theory of inland water transport was made until the invention of locks, either by the Dutch or the Italians. It is possible that the brothers Domenica stumbled upon the idea when they constructed a lock chamber enclosed by a pair of gates, late in the fifteenth century. At all events, Leonardo da Vinci developed the idea for the six locks he completed in 1487 to unite the canals of Milan. And so we can trace the making of the modern European canal from the prototype at Languedoc, available for boats, barges, and small ships, to those great works of engineers which have been made to take steamers of size.

* * * *

When Hugh Myddleton first brought the fresh water from Amwell to Islington, and "viewed his New River with satisfaction," he unconsciously inaugurated the English canal; but England took to the system for transport somewhat late in her history. The first canal projected was that connecting Manchester and Worsley, the scheme having originated in the brain of the Duke of Bridgewater, to whom the title "Father of British Waterways" can be justly given. The Duke owned extensive collieries at Worsley, and the problem was to transport the coal to Manchester, there to feed the furnaces and supply power to the newfangled beam-engines, pumps, and other devices of the industrial North. Brindley, the engineer to whom the Duke entrusted the work in 1755, overcame what in those days were regarded as insuperable difficulties. This indomitable engineer had to construct immense embankments and to form great viaducts and bridges for the whole course of forty miles, including the branches from the Mersey at Runcorn Gap, the one to Pennington, and the other to Manchester.

* * * *

When this canal was completed all sorts of schemes were put forward to emulate the success of the Duke and his engineer, with the result that from 1760 until the accession of Queen Victoria nearly three thousand miles of navigable canals were made. It was a sad day for the wharfinger, bargee, and lock-keeper, as it was for the charioteer of the road, when the first faint clank of the steam engine disturbed Stockton and Darlington.

* * * *

The extraordinary thing is that in spite of neglect, of the popularity of the railroad, and of a thousand-and-one other things, the canals in this country have survived. During the war their worth was proved a thousandfold. On the Continent more importance is attached to the utilisation of inland waterways. There are, for example, the canals of Belgium and France, familiar to many who served in the late war, especially those of the I.D.W. In the former country the canals aggregate in length no less than 1,360 miles. Before the war both Germany and Austria-Hungary spent millions on the improvement of the inland waterways; while France, the pioneer in most things of a practical turn, can boast of a canal tradition dating from the beginning of the seventeenth century, for our great Ally has always been alive to the advantages of this method of transport both for long-distance and for local traffic.

* * * *

To architects, builders, and the general public, the subject of the canal is of momentous interest, more especially the small waterway threading out-of-the-way districts. The barge, while, of course, it cannot compete with the celerity of steam and motor transport, is, especially over long distances, less expensive if a less speedy means of transport, and for local transport, say, up to thirty miles, the value of the canal is inestimable. In France the Government, while developing the railways, gave the canals some consideration. In fact, these waterways were regarded as tributaries and feeders to the steel roads. In England, on the other hand, the railway companies, fearing competition, did all they could to disparage the utility of the waterway.

* * * *

James Brindley, the most active promoter of canal navigation in England, ranks among the foremost engineers of the eighteenth century. Brindley was a self-taught genius, entirely absorbed in his work and an enthusiast of the first order. Once, when he was being examined before a Committee of the House of Commons, he was emphatic in his views claiming the superiority of canals over rivers for inland navigation. A member asked, "Pray, Mr. Brindley, what, then, do you think is the use of navigable rivers?" "To make canal navigations," was his reply.

* * * *

There were few things to which James Brindley could not turn his hand. When quite a young man he made himself famous by erecting a curious water engine at Clifton, in Lancashire, for the purpose of draining coal mines. At Congleton he acted as an architect and erected a silk mill, and in 1756 at Newcastle-under-Lyme constructed a steam engine upon a new plan. In this case the boiler was made with brick and stone instead of iron plates, and the water was heated by fireplaces so constructed as to economise consumption of fuel. He also introduced cylinders of wood instead of iron. But his mind was set upon the great national object of "inland navigation."

* * * *

The near future will see considerable improvements in the existing system of waterways. Canal beds will be dredged and banks will be concreted, towing-paths will be improved, and motor power will take the place of the patient horse. From Paddington to Braunston, and thence to Carlisle, not forgetting the branches to such obscure places as Wendover, heavy goods will be conveyed by water. The canals are among the assets of the nation. Whatever progress is made in aerial navigation, bricks will never be carried by air, neither will drain-pipes and bags of cement. No one can accuse a canal of being a blot on the landscape. Pre-eminently utilitarian, these artificial waterways of the past are invariably picturesque; and that is what all efficient things should be.

AERO.

Design for the New Bush Terminal Building, Aldwych

Helmle and Corbett, Architects.

This design shows a satisfactory partitioning of the Aldwych site by means of three separate blocks, the centre mass being intended to dominate. Mr. Corbett is giving close study to the design of the central tower in order to make it worthy of its position at the head of Kingsway. In America there has lately been a revolt against the huge windows for office buildings, our American confrères finding the old human proportions better than dimensions more suited to giants.

The New Bush Terminal Building

IN this issue, through the courtesy of Mr. Harvey W. Corbett, the distinguished American architect, we are able to give a number of illustrations and some description of the great new building for the Bush Terminal Company, which is soon to be erected on the Strand-Aldwych island site, which so long has lain a neglected and weed-choked wilderness in the very heart of London. This building, besides being one of the largest and most important to be erected in modern times, should, if the promise of the preliminary designs is realised, prove to be also one of the finest architecturally. Mr. Corbett has made a close and careful study of his site, and seems to have taken full advantage of the magnificent opportunities for architectual effect that it provides.

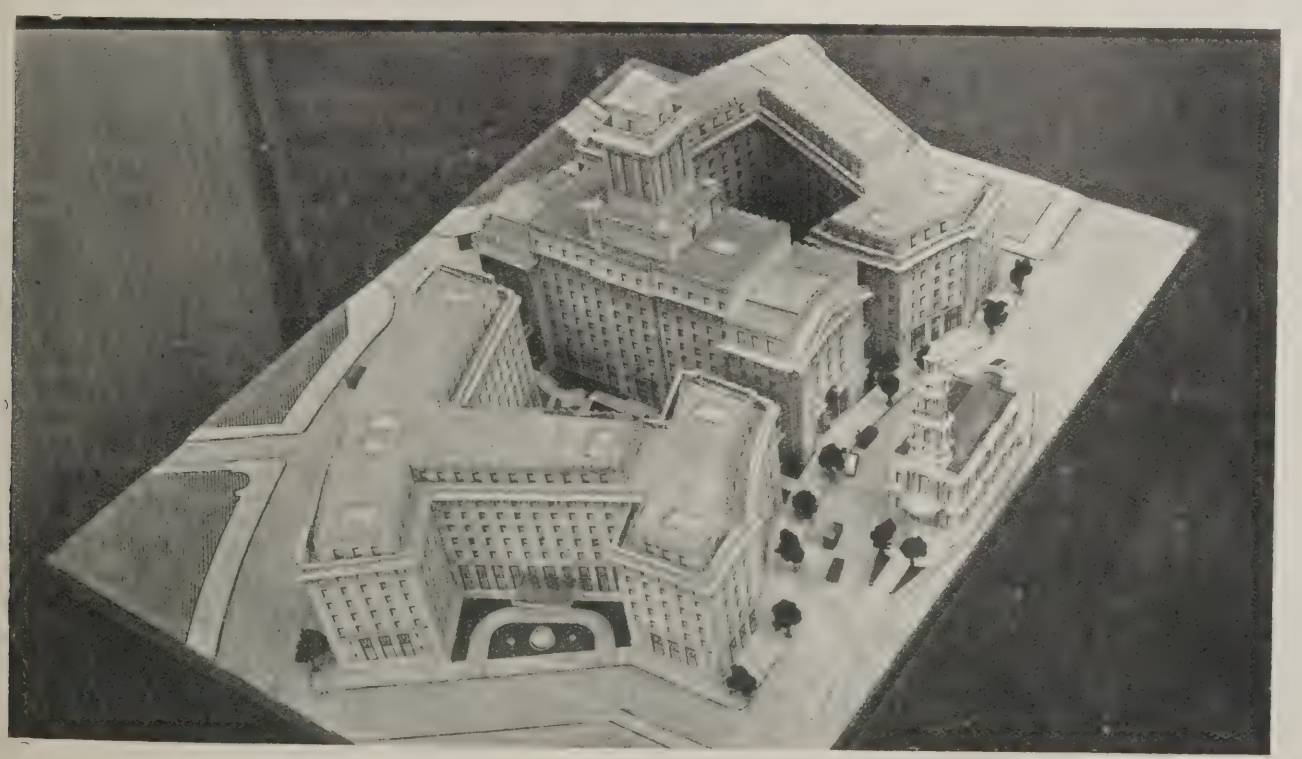
His building takes the form of three distinct blocks, the central one facing and continuing the lines of Kingsway through to the Strand. For the time being this part of the work is all that will be proceeded with, the cost being estimated at £300,000. Later on the wings will be added, with their curved fronts to Aldwych, their side elevations to Marconi House and Australia House respectively, and frontages to the Strand. In passing, it may be mentioned that Mr. Corbett has been at great pains to compose his Strand elevations in sympathy with Gibbs's beautiful little church of St. Mary-le-Strand—"that architectural jewel casket," as he enthusiastically described it to a representative of this Journal, who had the pleasure of a chat with him a few days ago. In the model, of which a reproduction is given, the scale relationship of the church to the new building is clearly shown, and it will be seen that, although the former is naturally slight and fragile in comparison with the latter, it is by no means overpowered by it. Rather does the greater building enhance the appearance of the smaller, providing it with a restrained architectural background that throws its delicate beauties into stronger relief.

Mr. Corbett is a great believer in models. He regards a model as an essential preliminary to the preparation of designs, particularly when a building has to conform to a special environment. The great value of a model, he holds, is that it enables an architect to gain a good idea of the appearance of his building in three dimensions before he has irretrievably committed himself to bricks and stone. The general use of the model before the preparation of finished drawings should at least prevent the perpetration of some of the more obvious defects in proportion and composition that everywhere thrust themselves upon our notice. Mr. Corbett holds that the intensive cultivation of draughtsmanship, so characteristic a feature of modern architectural training, is primarily responsible for the dullness of much modern English and American architecture. We must, he urges, get back to thinking in three dimensions, as the old architects had to do before H.B. pencils and cartridge paper conspired to confine men's thoughts to a plane surface.

Mr. Corbett draws out his elevations to scale in strips, renders them with shadows, and then applies them to his model, thus securing as close a realisation of the ultimate building, to a small scale, as could well be obtained. Then he begins to revise and correct. A good illustration of the real value of the model is afforded in the case of the new Bush Terminal building. The dominating feature of the central block is a tower, which, of course, will fill in the vista of Kingsway. In order to discover the best vertical proportions for this tower Mr. Corbett had that feature prepared on telescopic lines. Thus it was possible in the model to adjust to any level the component stages as well as to vary the total height. Mr. Corbett is still experimenting with this tower (a round one has even been suggested as an alternative), so it must not be assumed that the proportions shown in the illustrations are necessarily final.

The plans of the building are now before the L.C.C., and it is expected that sanction to begin building operations will shortly be given. Mr. Corbett assures us that the work will be carried out entirely by British contractors.

With regard to the internal arrangements of the building, there will be, as the plans show, an ample elevator service, no fewer than eight lifts running to all floors. Toilet facilities will be provided on every floor. Heating is by direct radiators under the windows, and good ventilation will be secured by withdrawing vitiated air. It is



MODEL OF THE BUSH SALES BUILDING, TO BE ERECTED ON THE STRAND-ALDWYCH ISLAND SITE.

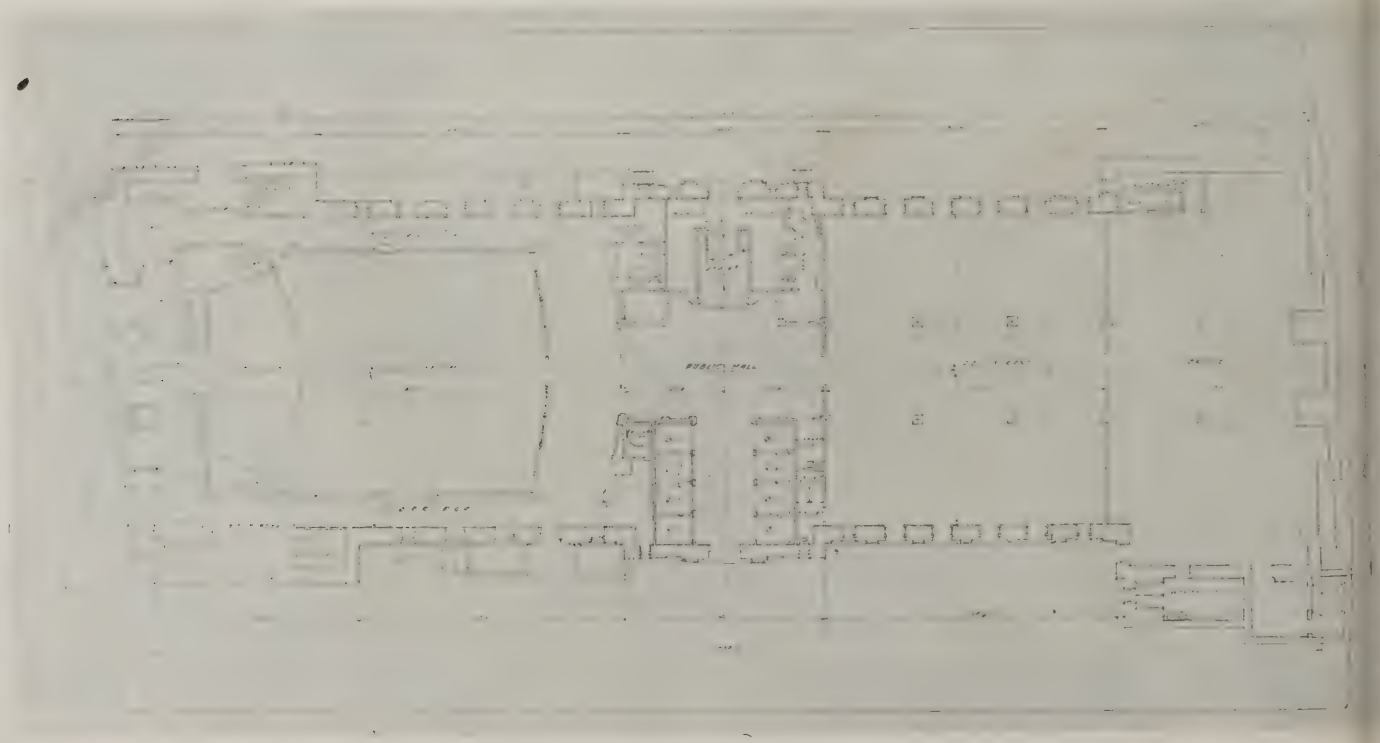
probable that an artesian well will be sunk, so that the building may have its own water supply, and a power plant will be installed for heating, lighting, and ventilating. The big open spaces within the building will be divided up as required by tenants.

Mr. Corbett, who is a member of the firm of Helmle and Corbett, of Brooklyn, N.Y., is a graduate of the Engineering Department (mechanical engineering) of the University of California. He is also a Beaux-Arts man, having studied in the atelier of Pascal, where one of his contemporaries was Mr. Arthur J. Davis, who has since made so considerable a reputation in partnership with M. Charles F. Mèwès. After his course at the Beaux-Arts, Mr. Corbett travelled through Italy and England, and also over a great part of France. He then returned to New York, and became a draughtsman in the office of Mr. Cass Gilbert. Mr. Corbett began to practise on his own account about 1904, since which time he has erected large numbers of buildings in the United States, many of considerable importance, including the Municipal group at Springfield, Mass., costing 2,000,000 dollars; the Mayoral Institute, Baltimore, costing 400,000 dollars; extensive hospital work in and around New York, to the total value of more than 3,000,000 dollars; and the Bush Terminal Sales Building, New York, costing 2,000,000 dollars. This is the most recent, and also the last, of the skyscrapers, for the building regulations of New York, lately amended, have put a definite limit to the soaring ambitions of the architect.

Mr. Corbett has run the whole gamut of architectural practice, having designed numbers of churches, schools, banks, commercial premises, and so forth. He confesses that he has very few residences to his credit, for his office organisation has not been planned to take any special account of the domestic side of architecture.

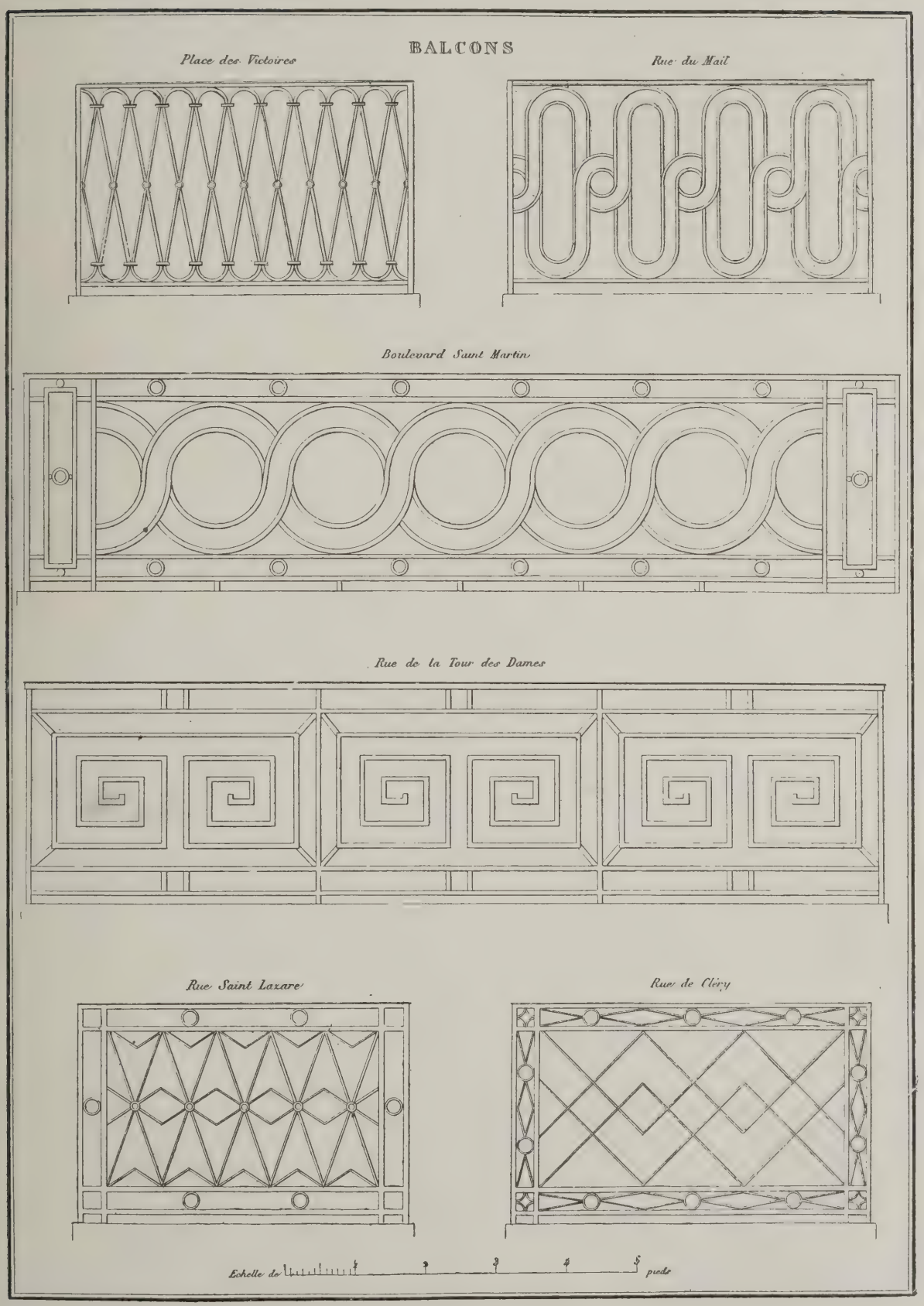
Mr. Corbett has always taken an active interest in educational work, and has maintained an atelier as part of the Beaux-Arts instruction at the school which is carried on by Beaux-Arts schoolmen in New York. He established the atelier system at Columbia University, and had charge of it under the direction of the late Charles Follen McKim. He is now an Associate of the Department of Architecture of Columbia University, acting as a critic in advanced design and thesis work, and as a special lecturer on the principles of planning and composition. He is a Member of the American Institut of Architects, of the Architectural League of New York of the Beaux-Arts Society, is a past-president of th American Group of Graduates of the Beaux-Arts School

MR. HARVEY W. CORBETT, JOINT ARCHITECT OF THE BUSH SALES BUILDING.



GROUND-FLOOR PLAN OF THE BUSH SALES BUILDING. HELMLE AND CORBETT, ARCHITECTS.

Some Paris Balcony Railings



The above balcony railings show several types of Directory and Empire motifs which had considerable influence upon English work of the same period. Railings of these types may still be seen in residential Paris, and English versions of the same designs are to be found in London and provincial districts. Our reproduction is from an engraving by Bury.

and a member of the National Sculpture Society. He has also received the Medal of Honour awarded by the New York Chapter of the A.I.A. for special work.

The "Bush" idea is a new thing to this country. Briefly it is this: The Bush sales building is designed to form a convenient centre for the exhibition of manufactures of all classes. In the ordinary way the representative of a provincial or foreign firm who comes to London to buy for his house has to waste a considerable length of valuable time in travelling about in search of the goods he requires. Even when he finds what he wants his difficulties are far from over, for he has no means of comparing the products of one concern with those of another, except by carrying the details in his memory, which may not be reliable. The Bush Terminal building gathers all the various classes of goods together and exhibits them side by side, thus simplifying the task of the prospective purchaser, who no longer has to waste time in travelling from one house to another, and is able to compare prices and qualities on the spot. Another advantage of the Bush Terminal system is that it affords the small man the same opportunities and advantages as the big one. Small concerns cannot afford expensive premises on important thoroughfares; but they can rent a small space in a big central building, such as the Bush Terminal Company are about to erect on the Aldwych site. The rent which the Bush Company charges covers all expenses—even the salesmen, all of whom are experts in their particular line of business, are employed and paid by the company. British manufacturers are said to have taken very readily to this new idea, which has proved amazingly successful in the United States.

Sir John Soane as a Collector

By ARTHUR T. BOLTON, F.R.I.B.A., F.S.A., Curator, Sir John Soane's Museum.

(*Concluded from No.* 1306, *page* 44).

THE drawing-room mantelpiece (page 85) shows the ultimate form of this study, of which the astonishing reticence and simplicity will command everybody's approval. The Monk's Parlour (page 85) illustrates the other pole, a romantic leaning which drove Soane to attempt all the difficulties of the absolute subordination of details, derived from very divergent sources, into a complete effect. In this direction, however, he did not display the same mastery, and his Scala Regia was felt in detail to verge on the gaudy.

The ceiling panel in wood (page 85) recalls Soane's official connection with the Houses of Parliament. It was probably a spare panel due to some alteration of the old Painted Chamber, which was one of the glories of the Old Palace of Westminster. Soane faithfully reported and predicted the fire, which in 1835 settled that problem of a new Parliament building which had been the dream and goal of the eighteenth-century architects. He had himself nearly achieved a new House of Lords, as part of a great scheme of classical buildings enclosing the remains of the old Palace, in

CAMEOS IN THE SOANE MUSEUM.

ILLUMINATED MISSAL OF THE FIFTEENTH CENTURY.

MARBLE WINDOW SLAB PRESUMABLY FROM A CLASSIC FRIEZE.

1794-6, but the war that began in 1793 developed so formidably that his fine hopes vanished. In 1800, when the Act of Union made something inevitable, Chambers, his old patron, was dead, and James Wyatt, successor in the Surveyor's office, standing upon his "patent," substituted for Soane's classic a lath-and-plaster specimen of his own "National Style." It was in these flimsy additions that the fire originated, and to Wyatt, therefore, must be ascribed the irreparable loss.

The marble slab above, carved in relief on both sides and turning on a central pivot, is one of these rare but illuminating details which bring home to us the realities of the private houses of the ancients. It may be assumed to have been part of a frieze decorating the top of the customary blank wall façades that lined the old and narrow street, and were broken only by the doorways, and possibly by an open shop-front on each side of the entrances to the houses. Alma Tadema, in one of his pictorial restorations of Classic interiors, shows a panel like this lighting a studio. The architectural student is too apt to think of Greek and Roman houses as exclusively of one story, whereas the existence in old Rome of tall blocks of flats seems to be established, and there are sufficient traces of an upper storey in Pompeian remains.

The cameos (page 81) may serve to recall Soane's friendship in Rome with Marchant, who became a famous die-sinker to the Mint. One of the group of Soane's friends of the Roman period speaks of the artist as having secured himself by this occupation. Probably Soane had learnt a good deal of the technique of the art from his fellow-student, and he also collected books bearing on the gems of the ancients.

Another illustration (page 81) is from one of the choice illuminated missals, which were for the delight of Padre Giovanni in his Parlour. This is a page from the Book of Hours and Prayers, illuminated on vellum, ornamented with an unusually large number of miniatures, excellently painted by Flemish artists at the end of the fifteenth century. Experts can distinguish the varied hands that combined in their production, and recognise different schools in the treatment of the borders, so that the principle of production by division of labour was well established.

The cinerary urn (this page) is one of many which illustrate his interest in mausolea and their details. One of his early designs was for a great mausoleum to the Earl of Chatham; and while at Rome he studied the sarcophagi in the Medici Gardens, and most certainly the fine group of tombs in the street of Tombs at Pompeii. This is a possible source of his devotion to composition in pure line, an abstract form of composition, which came as an unpleasant revelation to his contemporaries.

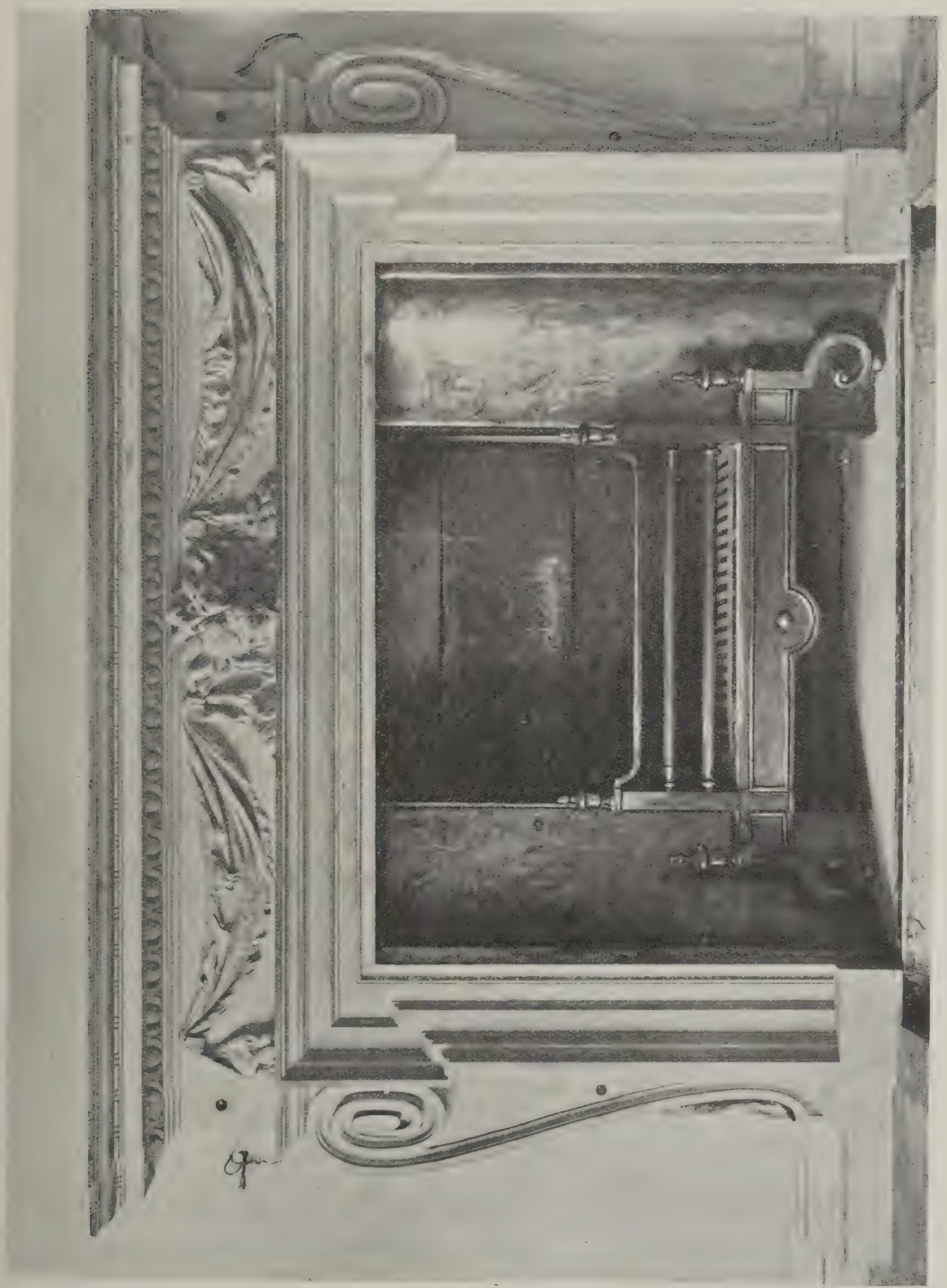
This brief outline might be extended and illustrated indefinitely. It suffices here if a few treasures are recalled to those who have already some knowledge of the house, museum, and library of Sir John Soane, and the writer will be well pleased if these pages serve to arouse in others an interest which no visitor seems ever likely to exhaust, in the wonderful achievement of Soane as a great collector.

[We much regret that, owing to a printer's error, a wrong description was given to one of the illustrations that accompanied Mr. Bolton's article in last week's issue. The illustration described as "Seti I Sarcophagus" is actually a cinerary urn. The sarcophagus is illustrated this week and the cinerary urn shown again. We are glad to have had this opportunity of drawing attention to some of the treasures of the Soane, a museum of great and peculiar interest, particularly to architectural students, by whom Mr. Bolton's illuminating commentary will be especially appreciated. We would again refer readers to the general description of the museum and its contents, which appeared in our issues for November 12 and 19 of last year.—EDS. A.J.]

CINERARY URN.

Chimneypiece, No. 9, Halkin Street, W.

Detmar Blow and Billerey, Architects.



Messrs. Detmar Blow and Billerey have made a special study of eighteenth-century work in England. The illustration shows a vigorous rendering of a chimneypiece after the manner of William Kent. At the present time notable results are attending the extension and modernisation of the English tradition.

THE MONK'S PARLOUR.

DRAWING-ROOM FIREPLACE.

SOME TREASURES OF THE SOANE MUSEUM

(*See Article on page* 81.)

CEILING PANEL FROM OLD WESTMINSTER PALACE

SETI I. SARCOPHAGUS.

Hollow Wall Tile Construction

IN America within the past decade the use of hollow tile for wall construction has greatly increased. So far as dwellings and other buildings of moderate size are concerned, this, no doubt, has been, to a large extent, due to the demand for buildings possessing greater fire-resisting qualities. Structural hollow tile was originally introduced into modern building ing construction in the form of fireproof floor arches, replacing the older and heavier brick floor arch. The same fire-resisting qualities which commended it to the architect for that purpose apply equally well to wall construction. Hollow tile possesses fire-resisting qualities due to its cellular construction, incorporating within itself an air space; it is also a valuable material because of its ability to keep out dampness and to insulate against heat and cold equally well.

Hollow tile for wall construction, as at present manufactured, with an exposed face 6 in. by 12 in. or 12 in. square, and varying in colour from a light to dark buff, does not present a finished or pleasing appearance, when left exposed. The application of stucco, however, to the exterior face of the tile wall solves the problem of appearance in an entirely satisfactory way. Tile for exterior walls should, according to the "American Architect," be hard burned, with all faces scored with deep dovetail ragged scoring. Badly cracked tile should be rejected. The tile should be laid in cement mortar, but the addition of a small proportion of hydrated lime is not an objectionable practice. A mixture composed of one part cement, not more than one-fifth part hydrated lime, and three parts of sand by volume will give good results. The mortar should be well mixed and only sufficient mortar added to give a stiff consistency. The blocks should be of uniform size, and any variations in thickness (face to face) should be adjusted on the inside. The outside faces should be set flush. Standard tile should be laid with the webs vertical, each vertical joint breaking with that below. By many it is believed that a coat of some type of waterproofing material should be applied to the tile walls prior to the application of the stucco. Experience has shown that this is not necessary, provided the blocks are of the proper quality and the mortar joints are well pointed. The blocks should be laid with a liberal air space in the joints.

The tile used for wall construction is somewhat porous, and therefore if dry will absorb water from the plaster. For this reason tile walls should be slightly wetted before the stucco is applied. This wetting is often overdone, in which case it will harm rather than help the construction. Sufficient water only should be applied to prevent the tile robbing the plaster of moisture. Water left standing on the face of the tile after wetting indicates that an excess amount has been used. Provided the foundations and wall construction are correctly designed and built, cracks and crazing in stucco on hollow tile may yet develop from several causes. Chief amongst these is the use of an excess of water in stucco coatings.

Where windows occur, it is important that a special jamb-tile be used, rabetted so as to provide for the window frame. The joint between the window-frame box and tile should be well filled with mortar to within 1 in. of the stop bead. The rest of the joint should be caulked, preferably with oakum, after the cement has well set, although a good type of elastic or roofers cement will also serve the purpose. Unless this is carefully done the wall will leak air around the periphery of the window. In fact, all joints between frames of either doors or windows and tile should be tightly caulked (with either oakum or roofers cement) at the head, sides and sill.

This is an important item, as all woodwork entering into the wall construction, such as window and door frames, etc., will shrink. The woodwork should be back painted before being set. This will help preserve the wood. Openings are an important consideration, and besides the points already mentioned, care must be taken to provide proper lintels and sills. Special arch blocks of terra cotta are manufactured for this purpose. Such construction as a piece of timber laid over the window head to reinforce the frame, with standard tile blocks built above, should never be permitted. Either arch tile, reinforced concrete, brick arches, angle iron or similarly suitable material should be used for the lintels. A satisfactory lintel can be constructed by using the regular wall blocks, filling the hollow spaces with concrete and reinforcing with steel bars. Such lintels can be made up on the ground and set in place—about four days to one week later. The window sills can also be formed by special sill blocks of tile. Irrespective of the nature of material used for the sill (tile stuccoed, concrete, brick, stone, etc.), proper drips should be provided on the underside.

Where the floor joists rest on the tile walls they should be given as liberal a bearing as possible; usually 4 in. is adequate. For other than the interlocking type a course of flat tile about 1 in. thick should be laid over the standard wall blocks, well-bedded in cement, forming a flat horizontal surface on which the joists can rest. Instead of breaking stock blocks to fit around the joists, the outside of the wall should be built up with thinner blocks (3 in. or 4 in.), and the space between the joists on the inside filled in with blocks of a thickness sufficient to make up the full wall thickness.

Where a pitched roof is used, a 2-in. by 4-in. cap plate, laid flat, can be set on top of the wall, and anchored to the top course of blocks, the anchor bolts extending down into the cellular spaces, which should be then filled with cement. This serves as a bearing for both the rafters and attic or ceiling beams. The stucco should not be extended down to the ground surface if it is possible to avoid it. While this is more important when the backing is of frame than with tile, yet the provision of a base course of brick or stone is always a preferable feature.

The use of brick arches, sills, base, and other trimmings in connection with stucco exteriors, if well worked out and not overdone, enhances the beauty of the structure, and breaks up the otherwise flat and often monotonous surface. When this is not desirable the use of a green or red tile insert in suitable locations gives a pleasing variation and should be used.

The use of special blocks to form pipe chases should be insisted on. The importance of not permitting standard wall blocks to be broken for such purpose cannot be emphasised too often. There should always be at least three cell walls and two enclosed air spaces between, for every part of the wall. This cannot be accomplished when standard blocks have the inside cell broken to recess plumbing and other pipes. Insistence on this point will prevent damp spots appearing here and there on the inside of the finished building. Where such chases are plastered over on the inside, metal inserts should be built in the joints between the blocks to which wire lath can be fastened.

The requisites for successfully built tile walls to serve as a backing for stucco may be summarised in the following several points:

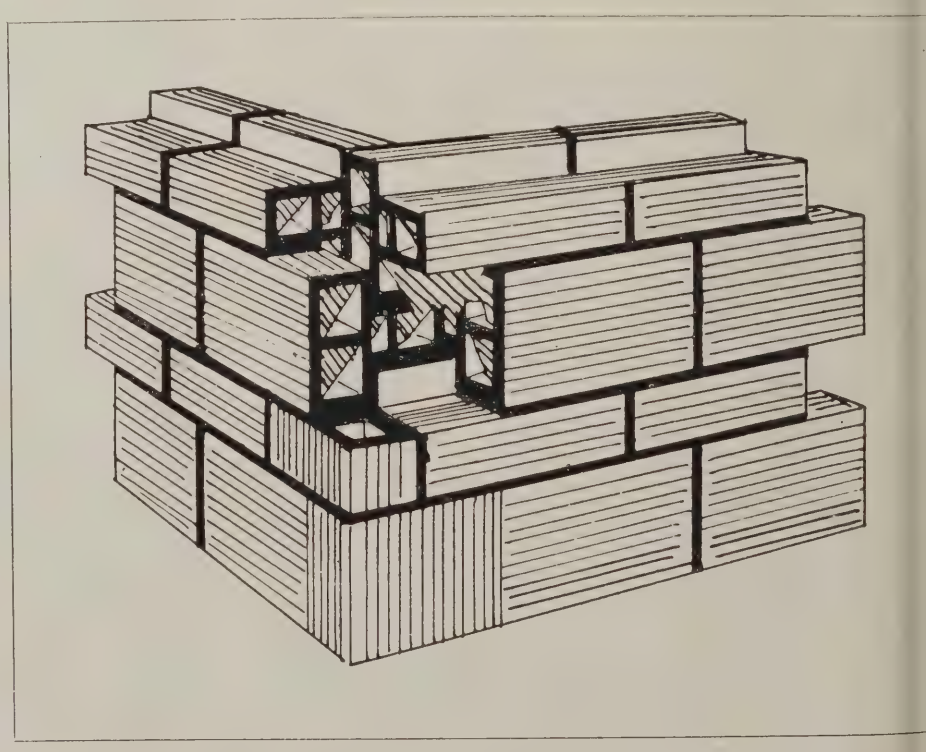
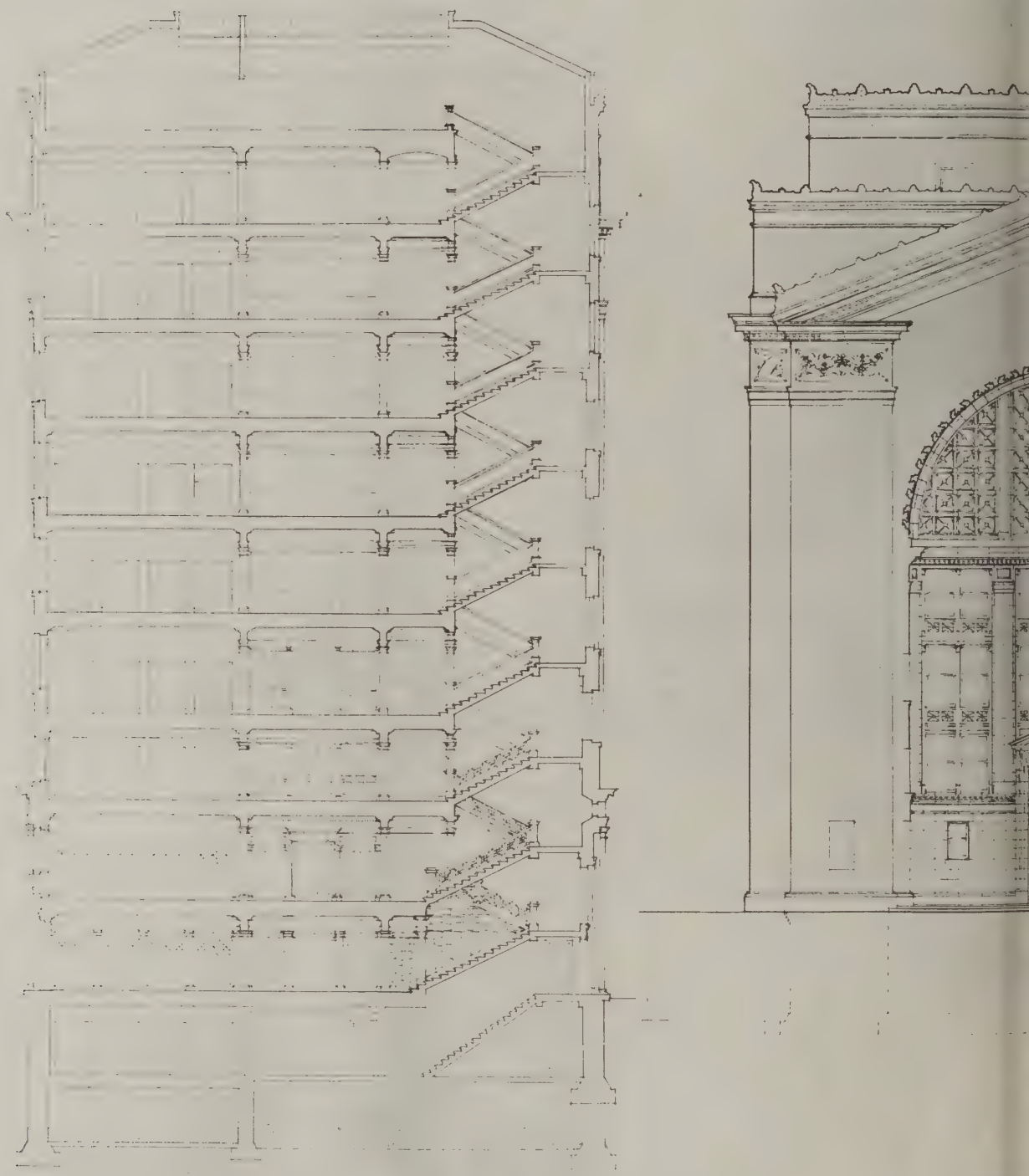


DIAGRAM SHOWING CORNER CONSTRUCTION WITH HOLLOW WALL TILES.

The New Bush Terminal Building, London : Detail of A

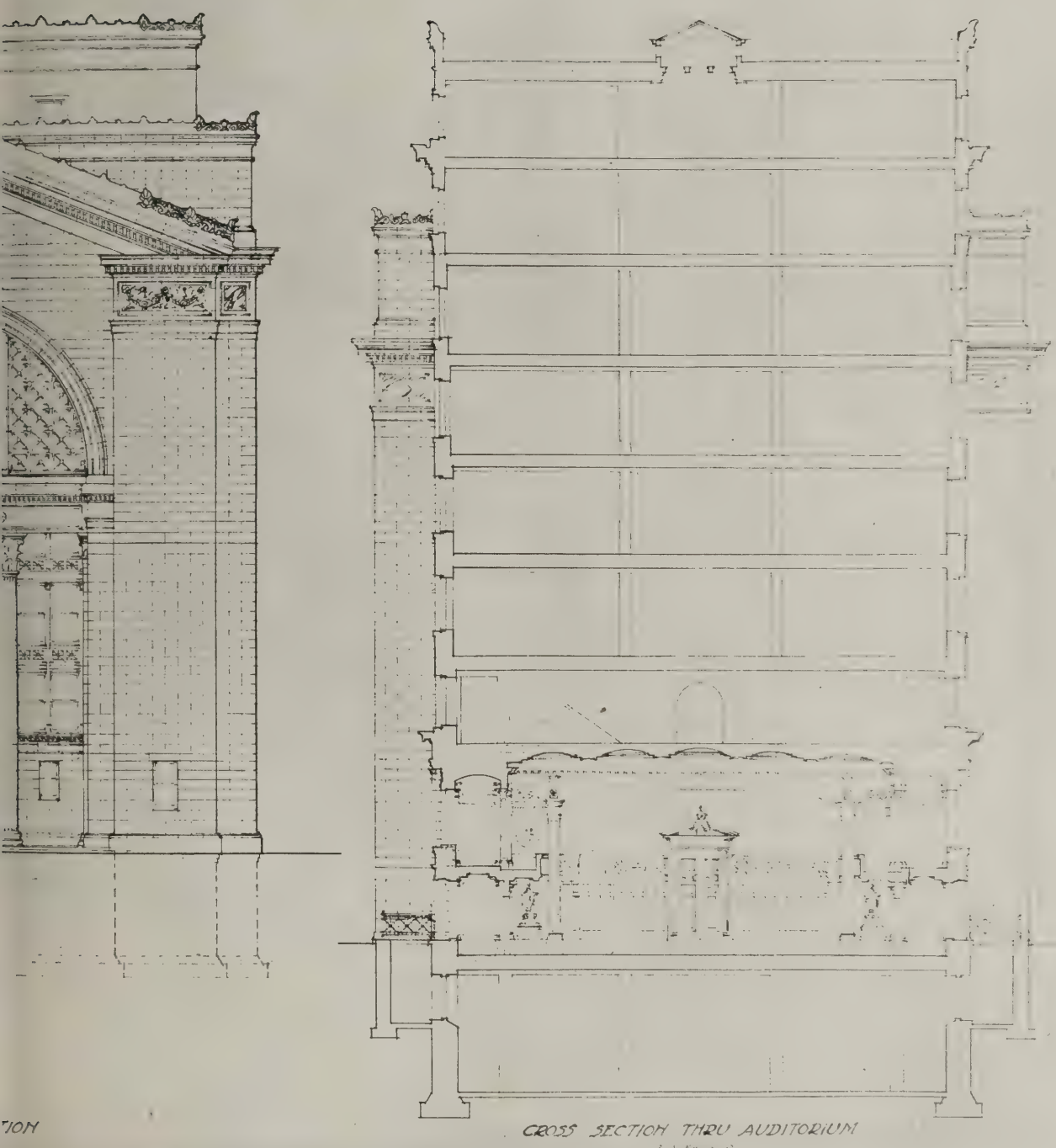
Helmle and



This drawing should be studied in conjunction with the plan and models illustr
only the middle one of which (that shown above) is to be immediately erect
crowned with a high tower. It will provide accommodation on the ground f
arti

:h Elevation to Centre Block and Typical Cross Sections

, Architects.



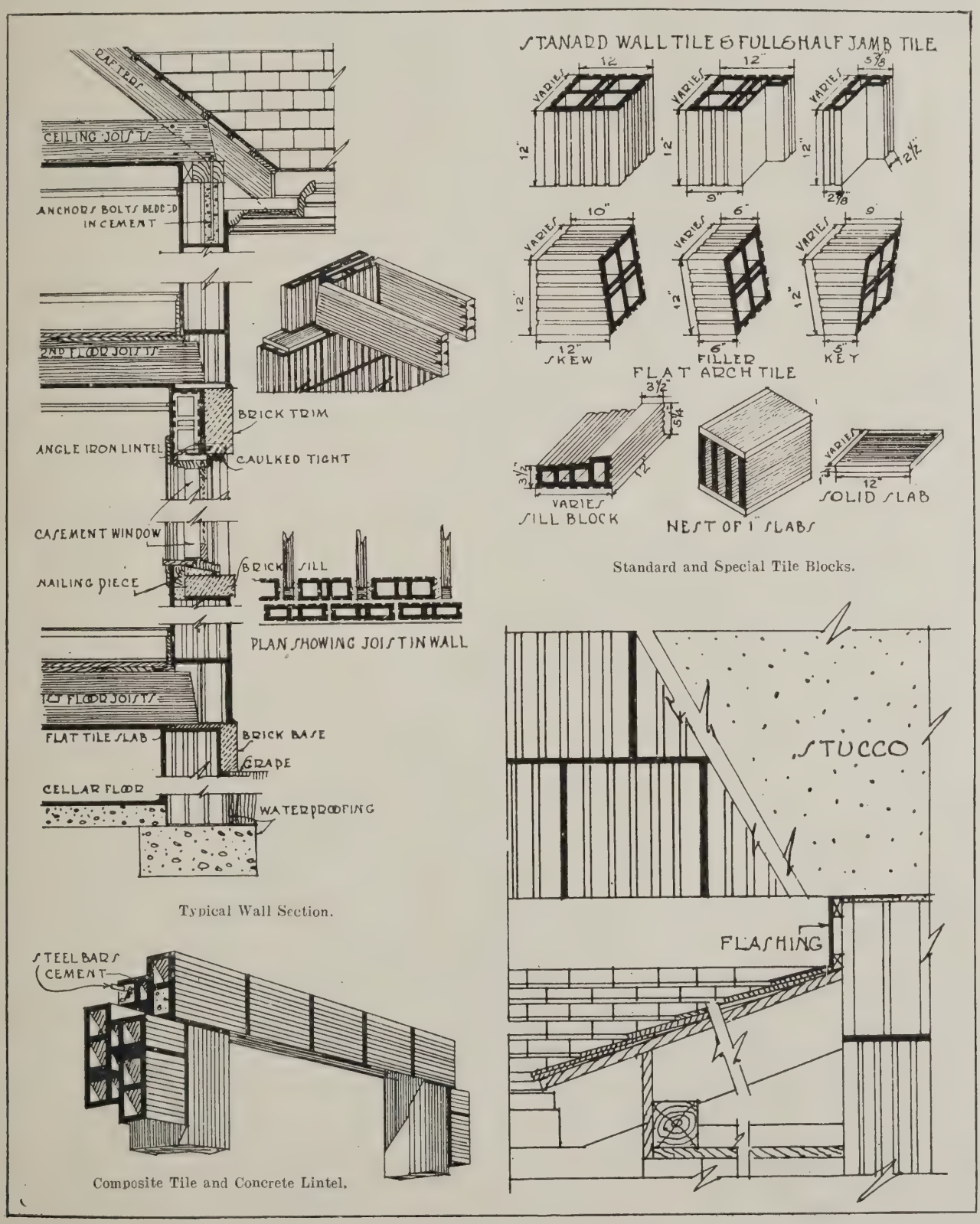
: 75, 77, and 78. The new Bush Terminal building consists of three separate blocks. lock, which has finely conceived elevations to Aldwych and the Strand, will be ge auditorium and a restaurant, the upper floors being devoted to the display of erce.

1. Well-designed and constructed foundations.
2. Good tile wall laid in properly proportioned mortar.
3. Careful treatment of all wall openings.
4. Special treatment of the base course to prevent stucco skirting ground.
5. Proper wall construction at beam and rafter levels.
6. Use of special blocks wherever necessary, as at beam levels, for pipe chases, etc.
7. The inclusion of definite directions for this work in the specifications, supplemented by adequate construction details in the plans.

Waterworks Councils

Representatives of waterworks undertakings in the metropolitan area and Home Counties have met in conference at the Guildhall to consider the desirability of forming district councils under the National Joint Industrial Council for that industry. Mr. E. B. Barnard, chairman of the Metropolitan Water Board, who presided, said that employers and employed were unanimously of opinion that the business of the country could not be carried on by a central body meeting in one town, because the characteristics and customs of the different localities varied considerably. Conditions prevailing in regard to labour were not always the same. It had been decided that responsible bodies should be created in different parts of the country to deal with a particular neighbourhood. It had been proposed that twelve councils should be set up for the whole country. The following resolution was carried unanimously: "That in the opinion of this conference it is desirable to form district councils for the metropolitan and Home Counties areas with boundaries to be fixed." A committee was appointed to deal with the question of boundaries.

This is but another instance of the decentralisation movement, which of late has made such considerable headway.



Typical Wall Section.

Composite Tile and Concrete Lintel.

Standard and Special Tile Blocks.

DETAILS OF HOLLOW WALL TILE CONSTRUCTION.

Correspondence

Unity in the R.I.B.A.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In reply to the letter from "Also Fed Up," in your issue of December 31, does it not appeal to him and others of the same mind that with the "dissatisfaction, unrest, and disunion" in the R.I.B.A., it may be they who ultimately will be anxious for amalgamation with the Society of Architects, for, to quote him, "There is not the slightest doubt that the excellent and well-managed London Society is already a far more important body than the R.I.B.A., both in Parliament and elsewhere." As to his comments on examination, I take it he is averse to Licentiates R.I.B.A.

The root of the whole trouble is that the antiquated, impractical, conservative element in the architects of to-day is a stumbling-block to progress. By their hide-bound individual egotism architects have failed their country in her hour of need, and they have the consolation of knowing that their assistants (yes, and good clever men, too) are the worse paid section in the whole of the community—the majority getting less than labourers.

Sirs, I appeal to the architects to realise that the future means combination and not competition. It is impossible to make the tide of evolution flow backward, and unless personal differences are sunk and all combine in one common cause, ordinary architectural practices will be a thing of the past, and architecture, "that noble art without which no other art can exist," will be controlled by the company promoter. M. S. A.

[We think our correspondent has misunderstood the meaning of "Also Fed Up," whose words he quotes in his first paragraph. "Also Fed Up" was obviously referring to that energetic organisation known as the "London Society," and not to the Society of Architects, which, however, is no less energetic. We are uncertain what our correspondent means when he says that architects have failed their country in her hour of need, unless it be that he considers architects responsible for the housing muddle, though obviously they are not. We agree with him that unity is essential if architects are to receive that recognition to which they are justly entitled. There is a conciliatory spirit abroad, and we are hopeful that all differences may be composed in the near future. EDS. A.J.]

Concise Costing for Housing

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of December 31 "H. L." asks how one would "obviate being charged for materials used caused through unnecessary waste." The word unnecessary points to the answer to this question, for it implies gross carelessness and negligence on the part of the builder. I cannot imagine his putting forth this as a claim with any assurance of succeeding. He might put forward a claim that sufficient had not been allowed for breakages and waste, but then it would resolve itself into a question of: What is reasonable? This would receive consideration like questions of measure do to-day, as in cases of girthing to mouldings of stonework, plaster cornices, and painting.

The very fact of the builder being able to check the amount of materials used with those ordered would concentrate his attention on "waste," and he would interest himself more in the means of eliminating waste wherever possible. In the case which I cited the waste on joinery work from deals to finished sizes was ascertained. But what is sometimes termed waste and allowed for as nominal waste is not the actual or true waste in the sense that brick-bats can be broken up and form part of the aggregate for concrete; certain waste timbers are used for packing joists, plugs, and protecting stair treads, etc. A contractor, as "H. L." is undoubtedly aware, knows the value and uses of these "wastes."

The main point is that in scientific and practical bills of quantities the "nominal waste" is calculated and allowed for in the quantity or measure item, in which it occurs, and as it is no longer a "sporting item" it is therefore removed from the realms of speculation in estimating, as all contractors are computing upon the same basis when tendering.

T. SUMNER SMITH.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The instructive articles by Mr. T. Sumner Smith have prompted me to add my varied experience to that of the numerous correspondents whose letters have appeared in your Journal. I have had personal experience in a contractor's office where a system of costing based upon materials and labour was installed by one of the most eminent builder's managers in this country. The surveyors' bills of quantities (when the estimate had been successful) were dissected item by item, and the relative estimated value of material and labour entered in separate columns on a card system. The contractor's profit in this case was in the form of a percentage, added at the end of the bill upon the estimated prime cost, the establishment charges also being added in a similar manner. The materials and labour costs were entered upon the card in their proper columns, and the costs of the items were then ascertained week by week from returns made by the shop foremen, builder's foremen, etc., and entered upon the cards.

My experience of this system shows that it is impossible for the labour costs to be accurately allocated by the foremen, who were responsible for the returns, the variation in cost week by week of identical work being simply astounding. If the system is to be carried out efficiently, then it would be necessary for the contractors to employ an additional staff, highly technically trained, to carry out the system in a satisfactory manner, and I am afraid if the question were put to, say, a score of the leading contractors in the country, "Will you undertake to work the new system"? their replies would be in the negative.

My further experience with regard to the amount of work done by bricklayers in various classes of work has been obtained by careful measurements of the amount of work done by each gang of men (about four men per gang) during a period of six months upon a large factory which was erected during the war, and upon which an average of about thirty bricklayers were employed. The number of bricks laid per man per day was entered up each day upon a chart system, each class of work being entered upon separate charts with a grand summary.

Of course, it is easy to pick out the inferior workmen by this method, but I must say that the average number of bricks laid per day varied very considerably. I never had two gangs of men lay the same average number of bricks per man when working side by side on identical work, and no single man laid the same number of bricks on two consecutive days. Mr. Sumner Smith states that "Estimates of labour would become an exact science and a necessity," but I am almost tempted to believe that this is impossible to attain owing to the varying output of labour to-day. My charts of bricklayers' work, I think, would conclusively prove, at any rate, that such would be the case with this section of the work.

I do consider that the present system of quantities is very much below what the "British" standard should be. It appears to me that a Bill should be made as clear and explicit as possible. Under "Carpenter," for instance, why should all the timber be lumped up together under one cube item? The builder would certainly prefer the items to be kept separate, and each size of the timber to be given in running feet. If the particulars under our present system were given in much more detail, and items referring to special features of work were kept together, then the builders would be able to check the quantities much easier than at present; and in all cases the Bills should be guaranteed correct.

R. S. SUTHERLAND.

Advertising by Architects

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It is with much concern that I find on resuming my practice as an architect, after some four years' absence on active service, that advertising in the daily press and the technical journals is now apparently considered as part and parcel of an architect's "stock-in-trade." Thus, I find full-page illustrated advertisements of specialities by architects, side by side with those of the very tradesmen who must supply many of the materials required in their construction.

I would suggest that one might go a step further in this direction, and have posters put up in the tube stations and on hoardings! It might be suggested that if any of the architects who on returning from active service find their practices have been diverted, that they should at once avail themselves of this suggestion, which appears to be sanctioned by the profession.

DISGUSTED F.R.I.B.A.

[So far as this Journal is concerned the charge of publishing advertisements of the character indicated does not apply. It has been our constant endeavour in these columns, as our readers are fully aware, to maintain inviolate the dignity and independence of the architectural profession.—EDS. A.J.]

Types of Hall Chairs. English (Period 1785-1815)

These fine examples of hall chairs from the National Collection at South Kensington reveal a variety of treatments ranging from Adamesque fan flutings to the Greek severity of the Waterloo Period. The second chair from the left was evidently designed to suit an Elizabethan interior. The furnishing of entrance halls should, beyond question, be entrusted to architects.

The French School in London

THE establishment is similar to the Ecole de France at the Villa Medicis in Rome. Its purpose is o enable French students to acquaint hemselves with the British Academies nd Institutes, the collection of pictures, culpture, and objects of art in this coun- ry, with English architecture, science and iterature, and to bring them into cordial elations with their British colleagues.

In founding the "Maison de l'Institut e France à Londres," (briefly referred to n a note last week) it is the design of Baron Edmond de Rothschild to increase nd confirm the friendship between the rench and English nations; and in his nlightened view the readiest means to hat end consists in extending that com- non interest, and in enlarging that mutual ppreciation of each other's achievements n art and science, which have always nited the two peoples.

A distinguished and learned connois- eur, Baron Edmond de Rothschild, nlike many collectors, values the artist s well as his work. The Baron has ounded and endowed twenty-one scholar- hips tenable in the new Maison de Institut à Londres: seven for students f the Académie des Beaux-Arts, seven for ne Académie des Sciences, and seven for ne Literary Academies.

It should here be explained that l'Institut de France consists of five Academies: (1) Académie Française—this is, of course, the Academy of the Forty Immortals, to which no honorary members are admitted, and to which Marshal Foch and Marshal Joffre have recently been elected; (2) Académie des Beaux-Arts, consisting of Painting, Sculpture, Architecture, and Music; (3) Académie des Sciences; (4) Académie des Sciences Morales et Politiques (to which Mr. A. J. Balfour was recently elected membre correspondant); and (5) Académie des Inscriptions et Belles-Lettres. Thus the renowned Institut de France, which, as a department of the Government, has not its peer in any other country, will be notably represented in London.

Baron Edmond de Rothschild, himself a member of the Institute (Académie des Beaux-Arts), upon coming to England to initiate his project, sought the advice of Mr. John W. Simpson, President of the Royal Institute of British Architects, and the only British architect who has both been elected membre correspondant de l'Institut de France (Académie des Beaux-Arts), and appointed by the Ministre des Beaux-Arts officier de L'Instruction Publique. Mr. Simpson at once placed his services at the disposal of his confrère gratuitously. Mr. Simpson has been able to secure for the Maison de l'Institut à Londres the beautiful mansion, 185, Queen's Gate, built by the late Norman Shaw, R.A., the acknowledged master of English Domestic Architecture, for the late Colonel W. Vivian; and under Mr. Simpson's direction the house is now being fitted and furnished.

Baron Edmond de Rothschild has purchased the freehold from the Crown, has endowed the property with a sufficient sum for its due maintenance, and has presented the whole to l'Institut de France, so that the Maison de l'Institut de France now belongs to the French Government. Among the members of the Commission d'Administration are M. Ribot (Chairman); M. Cambon, Ambassadeur de France en Angleterre; M. Ch. Girault, architect, President de l'Académie des Beaux-Arts; and the sécrétaires perpetuels of the five Academies, including M. Ch. Widor, the eminent composer, and the famous organist of Saint-Sulpice.

Lord Esher, Chairman of the Royal Commission of the Exhibition of 1851, representing the trustees of the site, has done all in his power to assist Baron Edmond de Rothschild in the fulfilment of his design. It is hoped that the work will be completed by next May, when the President of the French Republic will open the Maison de l'Institut à Londres.

Joint Industrial Council's Report

DURING the past three months the outstanding feature in the application of the Whitley Committee's ecommendations has been the establishment of the three National Councils n which the Government as employer represented. There is also progress report in the establishment of Industrial Councils for the War Office nd the Ministry of Munitions. The oint Industrial Councils now total fifty- ne. In the December number of the Bulletin of the Joint Industrial ouncils" the Industrial Councils Divi- on of the Ministry of Labour state: At a me when the efficiency of this country as n economic unit in the community of ations is vital to the well-being of every ndividual, the prospect may indeed be elcomed of the increase in co-operation, e improvement in methods and condi- ons of labour, and the gain in wealth— sing that word in its broadest and best eaning—that will result from a wise ex- nsion of the Whitley principle. Even the erhauling of our industrial organisation at that principle necessitates is in itself a in, inasmuch as it renders ultimate co- eration easier and smoother. It is pos- ble to look forward to a time when the numerable difficulties of defective orga- sation will have been so far dispelled as leave the field free for broad construc- e work. Industrial questions of funda- ental importance to the whole community e now before the nation, and the time past when the solution of minor disputes d sectional difficulties is the whole func- on of industrial bodies.

In this connection a noteworthy step is e attempt made by the Building Coun- l to solve the difficulties of its own in- stry. It is not within our province to discuss the pros and cons of the difficult questions with which this Council has been dealing, but the fact that they have been approached is a matter for real congratulation. At the root of all these matters lies the question of Education, and the attention now being given to this issue is a welcome indication that Councils are keeping abreast of national opinion. The local authorities and the Board of Education are, of course, the first bodies to approach on this topic, and it is hoped that the example set by the Councils for pottery, rubber, silk, tin-mining, and several other industries will be widely and promptly followed. The question of statistics and research is another important field of activity. This is pre-eminently a matter in which the close co-operation of employers and workpeople is essential, and among the new proposals for work on these lines that of the wire-drawing industry is of special interest.

The summer witnessed very considerable developments in the establishment of district councils, the number of which is growing rapidly. The National Councils will find their way cleared in many directions by the setting-up of local bodies; the speedier settlement of disputes, the detailed application of general agreements, the adaptation of industrial conditions to local needs, and a general improvement in organisation are matters concerning which district councils are the natural channels of progress. The Works Committee movement is also making progress. It is found that both employers and employees are ready to welcome the assistance of the Ministry of Labour in this connection, especially in view of the principle which has been observed from the start that the fullest possible use shall be made of existing organisations. It may fairly be said, therefore, that nobody who takes an interest in the Whitley movement can regard the record of the past months as other than fruitful and encouraging.

To enable the building industry to render the most efficient service possible to the community, a committee was appointed to consider the question of scientific management and reduction of costs. The committee on August 7 issued an interim report, in which the following proposals are put forward: In order to regularise the demand for building, it is recommended that employment committees be set up in all parts of the country. It is suggested that these committees should consist of producers only but that the fullest possible co-operation with the Government and local authorities be secured at every stage. The second suggested function of the local employment committees is the decasualisation of labour, with a view to solving the difficulty of providing employment during wet and bad seasons. The report suggests that the Building Trades Industrial Council should approach the representatives of other industries and public authorities with a view to investigating the possibility of "dovetailing" or seasonal interchange of labour. The report also recommends that provision be made by the industry itself to maintain the operative and his family during any period of unemployment arising from causes outside his control. It also suggests that one week's notice, instead of one hour, should be given at the termination of employment, and that the Local Employment Committees be notified of such approaching terminations, also of all vacancies occurring. Further interesting suggestions are made with regard to the

wages of management, the investment of capital in the industry, and a model costings scheme. The report gave rise to a very interesting debate at the annual meeting of the Council (August 14 and 15), as a result of which the committee was requested further to examine the effects of the principles set forth in the light of the criticisms then expressed. The report aroused much attention.

Committees of the Building Council have also dealt with the supply of labour for the housing scheme and with the safety and welfare of operatives. In connection with the former the committee has been in frequent consultation with the Ministry of Labour, the Ministry of Health, and the Scottish Office. Its report, which was adopted at the annual meeting of the Council, deals in considerable detail with the statistics of employment in the industry, and with the estimated requirements of the present situation, and puts forward valuable suggestions as to the best means of utilising the existing labour supply and as to possible sources of augmentation.

Enquiries Answered

Swept Slating to Houses.

W. H. P. (Newcastle) writes: "Please inform me where I can obtain any publications which deal in a practical manner with the method employed in executing swept slating to roof valleys, etc., to mansions and cottage work."

—We should be glad to know whether any of our readers can supply the desired information, our enquiries having proved fruitless.

Dark Grey Cement.

P. J. (Brighton) writes: "How can I obtain a permanent dark grey or blue-grey colour in external cementing. Would fine clean breeze be objectionable?"

—The substitution of smith's ashes for sand in cement mortar will give a permanent dark grey colour. There would probably be no harm in the use of fine breeze for a similar purpose. A bluish colour may be obtained by a mixture of three parts of fine iron scale, three of cement, and two of clean river sand.

Stained Red-tiled Floor.

P. S. (London) writes: "Please inform me how I may remove Portland cement particles and oil and grease from a red-tiled floor."

—The projections of portions of Portland cement should be carefully chipped off with a sharp cold chisel, then with a little fine sand, water, and red ochre the whole surface may be rubbed over with a piece of red tile about four to six inches square, dwelling a little longer on the cement stains than on the other parts. Oil stains may be removed by covering the spots with Fuller's earth ¼ in. thick and putting a hot iron upon the top; an ordinary domestic flat iron heated as if for ironing would be suitable. Heat is necessary, but if excessive it will crack the tiles.

Leaky Tanks.

F. G. (Colchester) writes: "Please state the best method of stopping the leakage of some water tanks which are built in cement concrete and finished inside with cement. Is there any means of stopping the leakage besides floating them in cement?"

—We would advise our correspondent to coat the inside of the tanks with a bitumen sheeting, of which there are several makes on the market. The tanks are probably leaky because of cracks in the concrete produced by temperature stresses.

Society of Architects

The report of the Council for the year 1919 states that 135 candidates were admitted to membership, being 104 in excess of 1918; eleven members were reinstated, and five graduates and four students were elected. After allowing for deaths, resignations, lapses, removals, and transfers, the total membership on October 31, 1919, was 1,269, made up as follows: Members, 1,102; hon. members, 26; retired members, 35; graduates, 12; students, 94. The total membership for 1918 was 1,170. Four hundred and fifty members of the Society in all classes served in H.M. Forces during the war, of which number thirty-three gave their lives. The total number of honours and awards bestowed upon members of the Society for military service was sixty-six.

The free use of the Society's premises, together with the services of the secretary and clerical staff, have again been placed by the Council at the disposal of the Beaux Arts Committee and of the Professional Employment and Reorganisation Committees of the Architects' War Committee. The Beaux Arts Atelier is also housed by the Society, and the lecture room was placed, free of charge, at the disposal of the Architectural Association for the accommodation of its students for several months, pending the completion of the A.A. extensions. As it was found impossible to obtain suitable premises elsewhere, and the present accommodation was not sufficient to enable the Atelier to be restarted on pre-war lines, the Council decided to extend the lower ground floor hitherto occupied by the library, to cover in the open space in the rear, and to hand over to the Beaux Arts Committee, for the time being, the whole of the western annexe, comprising a self-contained Atelier on two floors, with every convenience for carrying on this important educational work, which has been the means of establishing this system of architectural education in this country, and of paving the way to a scheme for co-ordinating architectural education in the country under the auspices of the Royal Academy of Arts. In addition to the help rendered to the Beaux Arts Committee, the A.A., and other educational bodies, the Society has constantly advocated the advantages which the public, the profession, and the Art would derive from the establishment of a Ministry of Fine Arts, containing a National School of Architecture. When the Society entertained H.M. First Commissioner of Works, the Right Hon. Sir Alfred Mond, Bart., M.P., and other distinguished guests, including the President of the R.I.B.A., at a luncheon, the question of Architectural Education was discussed, and the advantages of the Beaux Arts system of training and of the foundation of a National School of Architecture advocated.

At the invitation of the R.I.B.A. the Society gave evidence before the R.I.B.A. Committee on the future of architecture. The questions raised related principally to Professional Education, Training, and Unity and Statutory Registration. The views expressed by the Society's representatives on these and other points were afterwards confirmed by the Council, who intimated their willingness to consider further any proposals put forward by the R.I.B.A. for the betterment of the profession. The Society was given to understand that the Committee's findings would be published, but so far no report has been received by the Society. In response to an invitation from the R.I.B.A. to express an opinion on the draft of a Bill to amend the law relating to the Acquisition of Light, the Society found that it was not in agreement with the proposal as drafted, and expressed the view that the matter was one for consideration by a joint Committee. The R.I.B.A. did not see its way to adopt this suggestion, on the ground that time did not permit of it. So far as the Society is aware, no further progress has been made by the R.I.B.A. The secretary of the Society drew attention in the professional journals to the action taken by the Society twenty-one years ago, to amend the law so as to set a definite limit in each case to which a building owner could go with impunity. Representatives of the R.I.B.A. and of the Society met with a view to considering the question of issuing a joint form of Building Contract. The Institute representatives put forward a suggestion to their Council, the record of which was not agreed to by the Society's representatives, and the negotiations became abortive.

The data on cottage building received from members of the Society was scheduled and submitted to the Building Materials Research Committee. The fact that so many members of the Society were serving with H.M. Forces militated against anything like a representative expression of opinion or record of experiences being forthcoming from members within the stipulated time. The Council's views on certain matters referred to them were communicated to this Committee, and subsequently the Ministry of Reconstruction invited the Society to nominate a representative to serve on the Central Building Industries Committee. Mr. A. Alban H. Scott, Senior Vice-President, was nominated by the Council, and was afterwards appointed by the Committee as the professional representative on a Sub-Committee dealing with certain aspects of the matter under consideration. At a later date Mr. Alban Scott was appointed Chairman of the Ministry of Health Committee charged with the duties of examining and reporting upon new methods of house-building construction.

An application from members of the Society practising in Dublin was received for the formation of an Irish branch of the Society with headquarters in Dublin, and was approved by the Council and by the general body of members. Unfortunately, Mr. Anthony Scott, the local hon. secretary and prime mover in the proposal, died shortly afterwards, and it has not been possible as yet to replace him; but the resolution to constitute the branch holds good, and it is hoped that the initial difficulties will be overcome in due course.

The past year has been one of transition from a state of war towards a peace footing. Many members are returning from H.M. Forces and other forms of National Service to take up their professional work, and the Council is receiving frequent evidence that what little the Society has been able to do in looking after their professional interests has been greatly appreciated. The Society may justly be proud of the war services of its members, and there is probably no other professional body of similar size which has a higher percentage of ex-Service members or a better record of members, who undertook other forms of National Services. The services of these members are to be perpetuated by the establishment of a "Victory" Scholarship out of a fund to be raised by the members, and a simple memorial is to be placed in the Society's premises to the memory of those who will not return.

Annual General Meeting of the National Federation

The annual general meeting of the National Federation of Building Trades Employers of Great Britain and Ireland will be held in the Midland Grand Hotel, St. Pancras, London, N.W.1, on Wednesday, January 28, 1920, at 10.30 a.m.

Agenda.

1. Notice convening the meeting.
2. Minutes of last half-yearly meeting, held July 16, 1919, and any business arising therefrom.
3. Annual report.
4. Federation finance:

(*a*) Accounts and balance-sheet, and auditors' report. (*b*) Subscription for 1920. Report by Council. Consider any recommendations from preceding day's Council on the following matters, and resolve thereon:

5. Communication from the Midland Federation *re* excess profits.
6. The present practice as to the payment of emoluments to imported labour, and whether any further general regulations in respect thereof are desirable.
7. Report from the Administrative Committee (if any) *re* the 44 hours question.
8. Any other references from the Administrative Committee (if any).
9. Any other recommendations from the Council (if any).
10. Consider the following resolution from a special meeting of the Executive Council held January 6, 1920, and resolve thereon: "That this Executive Council approves and adopts the Draft National Code as printed, subject to a few minor amendments, and recommends it to this general meeting for final approval." (Members are requested to bring their copies with them to the meeting.)
11. Announcement of elections by Federations for new Executive Council.
12. To receive nominations to the National Board of Conciliation and the National Demarcation Committee for the ensuing year, and make an election.
13. Recommendations of Executive Council for election of President and Officers.
14. Election of President and Officers.
15. Next half-yearly meeting.
16. Any other business which may be presented by the President.

Size of New Houses

The Scottish Board of Health are seriously concerned over the large proportion—at least 70 per cent.—of three-apartment houses provided for in the schemes submitted to them by local authorities. Under the Government scheme houses with less accommodation than this cannot be erected in future, save in exceptional circumstances and with exceptional safeguards. Many local authorities appear loth to build houses of more than three apartments, and the Board are experiencing great difficulty in inducing them to keep within the maximum recommended, viz., that not more than 50 per cent. of the total number of houses to be built should be houses of three apartments. It is argued by the opponents of the larger houses that the workers do not want these and are not disposed to pay the extra rent. The Board are urging strongly upon local authorities the necessity of taking into account the fact that the standard of housing among the working classes is rising, and that as the houses to be built will continue to be occupied for at least sixty years, it is desirable to anticipate, as far as possible, the housing standards likely to be required in future. A three-apartment house, which has two bedrooms, does not allow a proper separation of the sexes in a normal mixed family of five; and the Board state that it is surely the minimum requirement of the present age that such separation should be made. The difference between the rent of a three-apartment house and one of four apartments is comparatively small.

Humanising Industry

"If there were more firms like this one, there would be no talk of labour troubles." Such a remark volunteered by a workman, a highly intelligent joiner, is valuable testimony at such a time as the present. This significant comment was associated with the interesting occasion mentioned below. On a recent Saturday afternoon (January 10) a well-known firm of building contractors gave a tea and entertainment to the children of their workmen—not the staff, but the yard hands; and what a delightful afternoon it was! There were 140 children present, but no adults except the helpers. The tea and the entertainment after it were given in the firm's canteen—a fine room decorated with festoons and coloured lights to grace the occasion. The staff band played during tea, and the helpers, who were the directors and the departmental heads with their wives and daughters, were assiduous in handing the good things round and seeing that the children were kept well supplied.

The programme was one that a millionaire's child well might envy. Seldom or never is such a full programme of unadulterated joy possible at the children's parties of the rich. Look at it! Punch and Judy show, nigger minstrel troupe, singing competition—when about twenty kiddies, ranging from the age of five to about twelve, each sang in turn a simple ditty. Then followed a clever recitation, during which every child sedately ate an orange. How one thrilled with sympathy with the intensity of their duplex enjoyment! Afterwards a clever ventriloquial entertainment kept them in screams of laughter. "Musical chairs" should have followed, but there was no time for this item, so we went straight to the great event of the evening—a huge Christmas tree prolific of presents—there was one for every child. By this time the fathers and mothers were gathering outside to take the children home. They were invited in to enjoy Father Christmas (played ably by the chairman of the directors)—and enjoy him they did, redoubling the youngsters' ecstacy in their presents by sharing it. Thus came to a joyous close a memorable day, and the writer left with the fine old words ringing in his head, "Inasmuch as ye have done it to one of the least of these"——

Yes, such evenings help to solve the labour question; not by "getting at" the fathers through the children, but because of what lies behind it all, namely, the vital fact that the workmen are thought of as human beings and not as "hands." It need hardly be added that "It is a happy firm," as another of the men said. In order that there should be no tinge of advertisement over this account of a most interesting and enlightening occasion, the name of the firm is withheld. They claim no reserved rights over these ideas, however, and if others follow their lead in such well-conceived efforts for their workpeople, none will be more pleased than the heads of the firm in question.

Norman Work at Westminster Hall

Some interesting discoveries of Norman work have been made during repairs to the roof of Westminster Hall. The hall was built for William Rufus, was completed in 1099, and was provided with a new roof by Richard II. at the end of the fourteenth century. At the same time the old Norman arcade was mutilated and cut away to provide for the fourteenth-century windows still to be seen. Many subsequent repairs and alterations were effected, and in 1644 the Norman work was further mutilated by Sir Robert Smirke, who refaced the interior walls with a new lining of stone. The broken remains of the Norman arcade were thus completely hidden from view when the present repairs to the structure were commenced in 1914.

The discovery of the design of the William Rufus Palace took place during an examination of the lowest part of the roof timbers of one of the trusses. The vertical timber supports have in some cases a small space at the back, and it was observed that there were some remains of Norman stonework, consisting of a moulded string course and a few arch stones behind the truss. Further investigations were made, and the removal of the loosely-piled stones from the underside of the Norman arch revealed a thin coat of plaster to which patches of bright colour still adhered. Several coats of colour wash had evidently been applied successively.

It was impossible to remove the whole of the modern stone facing to expose the Norman fragments, but, according to the "Civil Service Gazette," to ascertain if there was any further evidence of the old design, holes were cut into various parts of the walls. The first trial hole brought to light the base of a Norman shaft decorating the window jamb, the second revealed the stones of a large arch crowning the window recess, and the third a pier composed of four clustered shafts with cushion capitals connected at their summits by a moulded abacus block, from which sprang the remains of two courses of the arch stones of an arcade. This arcade formed the front of what had originally been a passage running throughout the whole length of the wall at window level. Every distinctive feature of the arcade was eventually discovered, including in eight cases parts of the passage itself left as voids in the thickness of the wall. The design consisted of a large arch crowning the recess of each window, with a pair of smaller arches at a lower level supported upon the abacus blocks of the clustered columns forming the front of the wall passage.

The importance of these remains was recognised by the Office of Works and by the Ancient Monuments Board for England, and it has been decided to leave the fragments in such a condition that they can be examined at any future date without difficulty. All the remains of the arches and columns which are immediately behind the more modern wall facing will, therefore, be provided with small stone doors invisible from the hall, but which will be moved on pivots. Provision has been made for access to the wall passage. It will be possible for an antiquary interested in the matter to open the stone door which will cover the access, and to inspect the remains of the plaster and the colour decoration of the wall passage in two instances.

Competition News

Birmingham.

Birmingham Civic Society have organised a competition amongst architects and others for the production of a scheme for the town-planning of the Northfield area, included in the South-West Birmingham town-planning scheme. The Civic Society offers a prize of £25 for the best treatment of the area proposed to be planned. The Society desire the preservation and proper treatment of a typical old village on the outskirts of the city, and the premiated design will be submitted to the Town Planning Committee for inclusion in the district scheme as a model for similar opportunities elsewhere. Full details may be obtained from the secretary of the Birmingham Civic Society.

Cheltenham.

Cenotaph to be erected on the Bandstand site on the Promenade. Apply Mr. R. O. Seacombe, hon. secretary to the War Memorial Committee, Municipal Offices, Cheltenham. Closing date Jan. 28.

Winsford.

War Memorial to cost about £300. Apply Mr. J. H. Cooke, hon. secretary to the Design and Sites Committee, Winsford, Cheshire. Closing date Jan. 30.

Chatham.

The Council of the Borough of Chatham are offering a prize of £100 for the winning design in a competition for the lay out of about fifty acres of land for the erection of working-class dwellings. Full particulars and conditions of the competition may be obtained on application to Mr. Edward B. Lee, Town Clerk, Town Hall, Chatham. Closing date, February 9.

The Housing Problem

Mr. E. C. P. Monson, F.R.I.B.A., P.P.S.A., F.S.I., F.R.San.I., in his presidential address to the Institution of Sanitary Engineers, held at the Caxton Hall, Westminster, on Wednesday last, said he believed he was the first architect to be elected president of the Institute, his predecessors having all been more particularly members of the engineering profession. In 1914-15 and 1915-16 he was President of the Society of Architects, and he was at the present time President of the Institute of Arbitrators. Although they were all more or less optimistic with regard to reconstruction, to the architect and engineer all the many and complex situations which must arise during the process of carrying it out are only too apparent.

What must be apparent to all in redressing the evils under which the working-classes had lived in the past was a ruthless overhaul of the dwellings, scrapping all those which are not fit and kept fit for human habitation, and the provision of up-to-date healthy homes replete with every convenience, clean wholesome air, free from smoke and other impurities, and with open spaces. The houses themselves should be well designed and beautiful to look at. It was not necessary that the plan alone should be considered, as the external appearance had a great deal to do with the training of the mind of a child.

It should be strongly advocated that all housing schemes, whether cottage or flats, should be absolutely self-contained; have three bedrooms at least; be up to the full size as laid down in the manual issued by the Ministry of Health; be of pleasing external appearance; lighted by electric light if possible, and amongst other things have a communal hot water supply and a communal wash-house, with drying rooms. If these were provided, the health of the tenants would be assured, especially if they occupied the premises in a proper and rational manner.

The question of finance with regard to these great State-aided schemes was of much complexity. Although he could not say what was likely to happen, it was a foregone conclusion that at the present time no scheme could be self-supporting, because nothing like an economic rent could be obtained for the new houses. This, to a certain extent, was due to the unnecessarily long continuance of the Rent Restriction Act. There had been some fear amongst local authorities that if they were unable to secure an economic rent, they would be penalised by the reduction of the Government subsidy. He understood that revised regulations were now being issued which should dissipate their fear. In conclusion, Mr. Monson remarked that there were a great deal too many rings, combines, and trusts in every trade, which were pushing up prices and making inordinate profits without thought of those who had to pay. All genuine competition was being strangled, and if it were allowed to continue could only be to the detriment of the country at large.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended January 10 numbered 158. The total number of schemes submitted by local authorities and public utility societies is now 8,002, comprising about 59,000 acres. The schemes approved now number 3,559, and comprise about 31,500 acres. Ninety-one lay-out schemes were submitted, and eighty-five approved, during the week, making the total number of lay-outs submitted 2,167, and the number approved 1,415.

House plans, representing 2,220 houses, were submitted during the week, and plans for 3,169 houses approved. The total number of houses represented in all the plans now submitted is 87,948, and in the plans approved 71,535. Tenders for 23,448 houses have been submitted, and approval given to tenders for 19,953. During December the Valuation Department of the Inland Revenue completed successful negotiations in 386 cases in which sites were being purchased by local authorities. This brings the total number of cases to 1,939, relating to an area of 10,656 acres. The amount asked, or provisionally agreed by the local authorities to be paid, for the land was £2,706,292, an average of £254 per acre. The price finally agreed to be paid was £1,946,482, an average of £182 per acre. The total sum saved is £759,810, about 28 per cent., and representing an average of £72 per acre.

Details of the schemes of local authorities dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number received from sixty-five local authorities was 156, comprising 1,046 acres, and bringing the total number of schemes promoted by local authorities to 7,908, covering approximately 56,000 acres.

Schemes Approved.—The number of schemes approved was 181, bringing the total number approved to 3,527, comprising about 30,850 acres.

Lay-Outs.

Schemes Submitted. — Eighty - nine schemes were submitted by forty-two local authorities, bringing the total number of schemes submitted to 2,118.

Schemes Approved. — Eighty - three schemes, promoted by forty-five local authorities, were approved, bringing the total number of schemes approved to 1,413.

House Plans.

Schemes Submitted.—Schemes, representing about 2,200 houses, were submitted by forty-three local authorities. The total number of schemes submitted represent some 85,000 houses.

Schemes Approved.—Schemes, representing upwards of 3,100 houses, were approved. The total number of schemes approved represent 69,924 houses.

Coming Events

WEDNESDAY, JANUARY 21.

Royal Society of Arts, John Street, Adelphi, W.C.2.—"Ancient Cottages and Modern Requirements," by Mr. Alfred H. Powell. 4.30 p.m.

THURSDAY, JANUARY 22.

The Concrete Institute, Denison House, Westminster, S.W.1. Paper by Dr. J. S. Owens, F.R.G.S., F.G.S., on "The Attrition of Concrete Surfaces Exposed to Sea Action." With lantern slides. At 7.30 p.m.

FRIDAY, JANUARY 23.

Society of Technical Engineers. Birmingham Section.—Third general meeting to be held at the Chamber of Commerce, New Street, Birmingham, at 7 p.m. Lecture by Mr. C. G. A. McDonald. All Technical Engineers are cordially invited.

TUESDAY, JANUARY 27.

The Illuminating Engineering Society.—Meeting at the Royal Society of Arts, John Street, Adelphi, London. 8 p.m. Discussion on "Colour-Matching by Natural and Artificial Light." To be opened by Mr. W. C. Martin (Department of Technical Optics, Imperial College of Science).

WEDNESDAY, JANUARY 28.

Chartered Surveyors' Golfing Society.—A meeting of the members will be held at the Surveyors' Institution, 12, Great George Street, Westminster, at 5.30 p.m., to decide upon matters arising upon the revival of the Society and to elect officers.

WEDNESDAY, JANUARY 28.

National Federation of Building Trades Employers of Great Britain and Ireland. Annual general meeting at the Midland Grand Hotel, St. Pancras, London, N.W.1. 10.30 a.m. (For agenda see page 97.)

FRIDAY, FEBRUARY 6.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public demonstrations on the practical testing of cement, by Mr. H. K. G. Bamber, F.C.S., etc. 6 p.m.

FRIDAY, FEBRUARY 20.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture, "Some Points in Reinforced Concrete Design," by Mr. H. Kempton Dyson. 6 p.m.

FRIDAY, MARCH 5.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture on "Some Properties of Steel," by Mr. Ewart S. Andrews, B.Sc. (Eng.). 6 p.m.

Town Development and Housing

Doncaster.

The T.C. have decided not to erect ıouses by direct labour.

Folkestone.

About £10,000 is to be spent in develop-ng the Leas.

Portishead.

The Corporation's housing scheme is to ɔe proceeded with at a cost of £40,000.

Gwyrfai.

The Rural Council has decided in favour ɔf brick-built cottages.

Loughborough.

Eighty-eight houses have been certified ıs unfit for habitation.

Hyde.

It is proposed to erect 112 houses at a otal estimated cost of £103,712.

Brandon.

The D.C. has appointed a committee to elect among the many sites proposed for ıousing schemes.

Bacup.

Sanction has been applied for in respect f borrowing £20,000 as a first instalment ɔf the cost of the housing scheme.

Blackburn.

Negotiations are in hand for the pur-hase of Witton Park, to provide recrea-ion grounds and housing sites.

Weybridge.

Of the first 100 houses to be erected ɔrty-six will have four bedrooms each, and ıe remainder three each.

Sutton.

It has been decided to purchase two mall sites for the erection of twenty ouses.

Bentley.

Six bungalows are to be erected as a first xperiment, at an estimated cost of £520 ach.

Wolverhampton.

A contract has been made for the erec-on of ninety houses at Brierley Hill, the verage cost being £850.

Lanark.

Proposals are being considered for the urchase of brickworks in order to obtain uilding materials.

Dudley.

Operations have commenced for the ection of seventy houses on the North-ɜld site for £58,000. In all 600 houses e to be built.

Dublin.

An official enquiry is being held into ıe Corporation's request for sanction of a ıan of £500,000 for the Marino housing :heme.

Grimsby.

Meetings are being held between the ɔrporation and the builders in order to rmulate an agreement for the erection of ıuses at a fixed price.

Leicester.

The C.C. is considering the purchase of e Evington site, comprising 107 acres, at 10 per acre. On the site already bought o houses are to be erected for £105,419; e total estimated cost of these dwellings, cluding the land, is an average price of ,005. An agreement is being arranged between the Council and the builders to fix definite prices.

Rawdon.

Sanction has been received for the lay-out of the housing site, and the plans for the fifty-six houses to be built have been approved.

Bournville.

Several pairs of houses of comparable accommodation, each pair of different materials, are to be built for experimental purposes.

Middlesbrough.

The Borough Surveyor has had a confer-ence with the federated and non-federated builders in order to further local housing schemes.

Somerset.

The Somerset county authorities have purchased sixty-three dwellings for police accommodation at a cost of £17,000, the estimated cost of new houses being £54,000.

Stirlingshire.

Approval has been received for the Cen-tral District's proposal to erect thirty two-storey cottages for £23,000. The full scheme at present provides for the erec-tion of 450 dwellings.

Tipton.

A tender has been accepted for the erec-tion of forty houses for £33,250. It has been decided to borrow this sum from the N.U.R., who offered the Council a loan of £100,000.

Bradford.

It is announced that the master builders have agreed to erect 2,000 houses, if pos-sible, within the next twelve months, and masters and operatives are endeavouring to increase the labour supply.

Bath.

The lowest tender for the erection of ten houses on the Dolemeads site was £7,796. As the Corporation has erected two houses for £773 each, they are asking for ap-proval to build the other ten likewise.

Braintree.

The lowest tender received for the erec-tion of twenty-four houses was over £21,000. Efforts are being made to modify the plan in order to reduce the cost.

Leeds.

The addition of a further 1,000 houses to the local scheme is now under con-sideration. A plan is being arranged for co-operation between the Corporation and the master builders, in order to facilitate erection.

Derby.

Under pressure from the Ministry of Health, the Derby T.C. has extended its housing scheme to provide for a thousand houses instead of the 536 originally pro-posed. The cost is now estimated to be a million pounds.

Bridlington.

The T.C. is seeking Parliamentary powers to develop the seaport north and south of the town. A considerable exten-sion of the marine drive is projected, lead-ing to an important development of the adjoining land.

Guildford.

Forty houses have been finished and about sixty others are expected to be ready for occupation within three months. Plans have been passed and sites purchased for another 200, which are to be put in hand at once. The houses are costing nearly £1,000 each.

Chepstow.

The Ministry of Health adjudicator, acting as umpire between the Ministry of Shipping and the Chepstow U.D.C., has decided against the adoption of back roads at the Bulwark Garden City, Chep-stow, and intimated that they were being eliminated from all housing schemes.

Birmingham.

A start has already been made with the erection of 450 houses. Offers for the erection of nearly 2,000 others have been either definitely or provisionally accepted, and 500 more are to be built by direct labour. Capital expenditure of nearly £750,000 has already been incurred, and it is expected that further two millions of money will be spent during the year. Ultimately, the cost of developing the 1,500 acres acquired by the Corporation is expected to reach £11,000,000.

Gateshead.

It is proposed to erect 650 houses, in three years, on the Carr Hill estate, which comprises sixty-five acres. The net area for building will be forty-two acres, the remainder being devoted to roads and open spaces. Work will first be started on anything from 100 to 200 houses. There are to be ten houses to each acre, and all are to be self-contained. A few are to be semi-detached, and the remainder erected in blocks of four to six houses. They are to be two-storeyed dwellings, with no attics, and about 25 per cent. will be con-structed of concrete and the remainder of brick.

Manchester.

Considerable difficulty is still being ex-perienced in connection with the housing schemes owing to the shortage of brick-layers. There are five millions of bricks in stock, and the local manufacturers esti-mate that 100 millions of bricks per year can be produced. About 17,000 houses are required in order to place dwelling accom-modation on a level with the present de-mand, and in addition 2,500 are needed annually to cope with the normal increase of population. To cope with this pro-gramme over 1,000 bricklayers are re-quired, but only 450 are available. Various other methods of house building are being considered.

Bristol.

Bristol is promoting a Parliamentary Bill to obtain powers to develop the city. It is proposed to erect a new road, five miles long, to Avonmouth. The road will be 100 ft. wide for a great part of its width, and a tramway will be laid down. Over 110 acres of land fronting the road are to be purchased and developed. The new road will greatly facilitate traffic, open up the sites for new housing schemes, and make for the most economical and efficient working of the docks. The docks are to be equipped with extensive modern plant. a pneumatic grain elevator, cranes, etc. In addition to these proposals, the city's electricity supply service is to be widely extended to provide current for neighbour-ing districts. The cost of these improve-ments will probably exceed a million pounds.

The Week's News

Wolverhampton Memorial.

A large public hall has been proposed as the town's war memorial.

Liverpool Buildings.

It is proposed to erect a big cinema and four restaurants.

Lincoln Hospital Extensions.

A scheme is being considered to extend the Lincoln Hospital at a cost of £10,000.

Portadown Bridge.

The widening of the bridge over the Bann is expected to cost £11,000.

Hospital for Watford.

It is proposed to erect a Peace Memorial Hospital at a cost of £50,000.

Fleetwood Hydro, Etc.

Important developments are being considered, including the erection of a hydro, opera house, and a cinema.

New Doncaster Industry.

A company has bought between 300 and 400 acres as a site for the erection of a glass factory.

Birmingham Secondary School.

Fifteen sites have been provisionally selected for the erection of new secondary schools.

Somerset's Architect.

Mr. W. J. Willcox, of Bath, has been reappointed architect to the Somerset C.C.

Factories for Worcester.

Preliminary proposals have been made for the erection of three factories, covering several acres in all.

Blundell's School.

Considerable additions are to be made to the school, as a war memorial, and the cost will probably exceed £10,000.

Dundry War Memorial.

The scheme for a village institute as a war memorial has been abandoned in favour of a stone erection.

National Labour Memorial.

A fund is being raised for the erection of large central offices in London as a memorial to members of Labour organisations who took part in the war.

Gallipoli Memorial.

Suggestions are being considered for a memorial at Cape Hellas to all branches of the Services. The Anzacs are to have a separate memorial at Anzac Bay.

Scarborough Aquarium.

This scheme, which is to cost nearly a quarter of a million, is temporarily held up, as Parliamentary powers have to be obtained in order to carry out the full project.

Southport's Memorial.

In addition to the obelisk to be erected, Southport proposes to add a new wing to the hospital. The total cost is expected to reach £30,000, and more than half this sum is in hand.

Preston Hospital Extension.

A monument is to be erected in the centre of the market square as a war memorial. It is also proposed to add a children's wing to the hospital at a cost of nearly £50,000.

St. Augustine's Abbey.

Funds have now been raised to acquire the remainder of the site of the ancient Abbey Church at Canterbury. It is now proposed to clear away the mass of earth which now covers the foundations of the greater part of the nave and part of the south transept, and reveal the whole of the outline of the great Norman church, as well as the original porticus of St. Martin, completed in 613. It is hoped to begin this work in about eight months.

Public Hall for Rotherham.

The war memorial for the county borough is to be a public hall, including suites of rooms for the ex-Service men's organisation. The building is expected to cost £50,000, and more than half of this has already been raised.

The King and the Society of Architects.

The Society of Architects has received from the Home Office a letter stating that the congratulatory address which the Society forwarded on the conclusion of peace has been laid before His Majesty the King and received very graciously.

New Woolwich Bottle Factory.

A large glass factory, capable of producing a hundred millions of bottles a year, is being erected near the riverside at Woolwich at a cost of £400,000. The furnaces and warehouses will cover thirty acres, and an area has been set aside for workmen's houses.

The Tinplate Trade.

Notwithstanding the boom in the Welsh tinplate trade, there are signs of growing competition now that America is recovering from her labour troubles. France, Japan, Canada, Spain, Norway, and the Netherlands are establishing tinplate works of their own, the first three countries on an extensive scale. Before long competition is foreshadowed from countries which hitherto have been the largest customers of Wales. American competition last year was only suspended through labour difficulties.

Church Building and Repairs.

The Incorporated Church Building Society, at a meeting in Westminster, made the following grants towards completing and repairing churches: S. Gabriel, Plymouth, £180, and S. Michael and All Angels, South Beddington, Surrey, £150; repairing S. Helens, Bishopsgate, London, £50, and Holy Trinity, Muckton, Lincoln, £50; building the Mission Church at Earlsfield, S. Alban, Surrey, £50. In addition, £360 was paid towards small repairs to nineteen other churches.

The Batavia Congress.

The General Engineering Congress, to be held at Batavia in May, 1920, will be held under the patronage of the Governor-General of Netherlands India, the object being to call together engineers from all parts of the world to discuss various questions regarding all branches of engineering and the connection of engineering with industrial enterprises. Over 500 applications have been received from engineers wishing to take part in this Congress. The Japanese Government have delegated a number of engineers to attend, and the U.S.A. will also be well represented.

French Devastated Areas.

In the regions from Chateau Thierry to Saint Quentin and from Soissons to Guise it is estimated that £400,000,000 will be required for the rebuilding of the devastated areas. Before the war there were considerably over 500,000 inhabitants, but 230,000 have been unable to return to their homes, 725 communes have been completely ruined, and 56,625 houses entirely destroyed, while 48,000 have been partly demolished and 1,500 factories have been razed to the ground. The money value of the agricultural implements and machines destroyed by the Germans or which have vanished is estimated at £5,200,000. It is estimated that in the years to come £3,200,000,000 will be wanted to restore to their former prosperous situation the devastated areas in France.

Scottish Health and Sanitary Conditions.

The Scottish Board of Health have called upon all local authorities in Scotland for a resumption of the annual reports of medical officers of health and sanitary inspectors on the health and sanitary conditions of their areas. The duty of making these reports was allowed to remain in abeyance during the later war years. The report for the year 1919, which has to be forwarded to the Board of Health by April 30 next, is to cover all the matters coming under the jurisdiction of the medical officers of health and sanitary inspectors—sanitation, housing and town planning, water supply, drainage, etc. The report for 1919 is to contain also a brief survey of the sanitary work carried out and the statutory proceedings taken during the years of the war when the regular reports were in abeyance.

Architectural Association of Ireland.

Mr. George F. Beckett, the President presided at a meeting of the Architectural Association of Ireland, held in Dublin, at which a lecture on "Inscriptions" was given by Mr. George Atkinson, R.H.A. The lecturer traced the development of the Roman alphabet through the influence of tool and material, and emphasised the necessity for a correct appreciation of the natural growth of letter forms in grading the choice between good and bad forms. An interesting series of lantern slides was shown of Roman inscriptions in stone and marble, and the subsequent variations of the letter forms as found in manuscript. Coming at the present time, when the demand for inscriptions for memorials is so great, the lecture was most opportune and useful to the members of the Association. At the conclusion a cordial vote of thanks to the lecturer was proposed by Mr. Lucius O'Callaghan, President R.I.A.I. and seconded by Mr. H. G. Leask.

The Surveyors' Institution.

A special committee, composed of members and non-members of the Institution with the president as chairman, is being set up to consider various proposals with regard to the future activities of the Institution. This committee will render to the council a report of their proposals, which will be submitted to the country branches for consideration. The Institution has been asked to co-operate with the R.I.B.A., the Society of Architects, the Architectural Association and the Architects and Surveyors' Assistants' Professional Union on the Architects' and Surveyors' Assistant Welfare Committee which will act as a Whitley Council between employers and employed in the two professions. The President of the Surveyors' Institution, Mr. Andrew Young, has been nominated to represent the Institution in the first instance. The Institution has accepted an invitation to join the Conjoint Board of Scientific Societies, of which Sir Joseph J. Thompson, O.M., President R.S., is Chairman.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of sue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing. These lists are strictly copyright.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR.	
cavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
ourer, 1s. 8d. per hour.	
vvy, 1s. 8d. per hour.	
nberman, 1s. 9d. per our.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
	In stiff clay, add 50 per cent.
uffolder, 1s. 9d. per hour.	In underpinning, add 120 per cent.
tchman, 6s. 6d. per shift.	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
oken brick or stone, in., 7s. per yd.	Headings, including timbering, add 400 per cent.
	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
ames ballast, 17s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Gravel, 17s. 6d. per yd.	Planking, 5½d. per ft. sup.
sand, 18s. 9d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
shed sand, 20s. per yd.	
eened ballast or gravel,	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
dd 10 per cent. per yd.	
iker, breeze, etc., prices	Do. 6 in. thick, 2s. 9d. per yd. sup.
ccording to locality.	Puddling, 30s. per yd. cube.
tland cement, 79s. per on.	Cement concrete, 4.2.1, 53s. per yd. cube.
	Do. 6.2.1, 49s. 9d. per yd. cube.
in small lots, ex ondon stock, 100s. per on.	Do. in upper floors, add 12½ per cent.
	Do. in ferro concrete work, add 20 per cent.
	Do. in underpinning, add 50 per cent.
s lime, 64s. per ton.	Lias lime concrete 41s. 3d. per yd. cube.
ks charged extra at s. 6d. each and credited hen returned at 2s.	Breeze concrete, 26s. per yd. cube.
nsport hire per day:	Do. in lintols, etc., 4s. 9d. per ft. cube.
art and horse, 26s.	
ton motor lorry, £6.	
team lorry, 5-ton, £7.	
railer, 30s.	
team roller, £4 10s.	
Vater cart, 30s.	
AINER.	
ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
nberman, 1s. 9d. per our.	
cklayer, 1s. 11½d. per our.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6-in. 14s. 6d., 9-in. 25s. 6d. per ft.
mber, 2s. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
tchman, 6s. 6d. per shift.	
neware pipes, tested uality, 4-in. 3s., 6-in. . 9d., 9-in. 7s. 11d. per d.	
t iron pipes, coated, ft. lengths, 4-in. 4s., in. 5s. 9d., 9-in. 8s. 6d. er yd.	
tland cement and sand, e Excavator above.	
d for caulking, 49s. 3d. er cwt.	
ket, 1s. 9d. per lb.	
CKLAYER.	
cklayers, 1s. 11½d. per our.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
ffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
don stocks, 84s. 6d. per	Do. circular on plan, add 12½ per cent. per rod.
tons, 73s. per M.	Facings, fair, 3d. per ft. sup. extra.
Tordshire blue, 198s. 6d. er M.	Do. picked Flettons, 4½d. per ft. sup. extra.
	Do. picked stocks, 6d. per ft. sup. extra.
bricks, 223s. per M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
zed, salt, white, and ory stretchers, £25 er M.	Struck pointing, 4d. per ft. sup. extra.
	Tuck pointing, 10½d. per ft. sup. extra.
headers, £24 10s. er M.	Weather pointing, 4d. per ft. sup. extra.
	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
ours, extra, £6 per M.	Do. 1½-in., 5s. 10d. per yd. sup.
nds, less, £1 per M.	Do. 2-in., 7s. per yd. sup.
ent and sand, see Ex- vator above.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 10d. per ft. sup.
e, grey stone, 62s. per n.	Do. vertical, 1s. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
ed lime mortar, 24s. 3d. er yd.	Asphalte paving in two thicknesses, ¾-in., 9s. per yd.
	Do. skirting, 6-in., 1s. 3d. per yd.
ro course, in rolls of in. 3s. 8d., 9 in. 6s. 7d., in. 8s. 10d., 18 in. s. 6d. per roll.	
SON (INCLUDING SLATE).	
on, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
ourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
folder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
	Sunk face, 3s. 1d. per ft. sup.
tland stone:	Do. circular, 3s. 8d. per ft. sup.
hitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. per ft. sup.
	Do. sunk, 2s. per ft. sup.
asebed, 4s. 8d. per ft. cube.	Do. do. circular, 2s. 8d. per ft. sup.
	Circular-circular work, 10s. 3d. per ft. sup.
h stone, 9s. 1d. per ft. cube.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
k stone, 7s. 7d. per ft. cube.	Do. circular, 10½d. per ft. run.
	Half sawing, 9d. per ft. sup.
paving, av. 2 in., 7s. 10d. r yd. sup.	Add to the foregoing prices if in York stone, 25 per cent.
sfield red, 6s. 4d.	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
(Usual trade extras for large blocks.)	Deduct for Bath, 33⅓ per cent.
	Do. for Chilmark, 5 per cent.
Slate shelves, rubbed, 1 in., 2s. 2d. per ft. sup.	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
Cement and sand, see "Excavator," etc., above.	
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 74s., Countess 83s., Duchess 90s. per square.
Tiler, 1s. 10½d. per hour.	
Scaffolder, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 142s. per square.
Labourer, 1s. 8d. per hour.	
N.B.—Tiling is often "Piecework."	Delabole do. 85s. per square.
	Add, if vertical, 4s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 9d. per ft. approx.
Clips, lead, 9½d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 82s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 75s. per square.
Nails, compo, 56s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggies 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 11s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 11s. 6d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 11s. 10d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per ft. cube.
Archangel:	Sarking felt laid, 1s. 6d. per yd.
1st £52, 2nd £49 10s., 3rd and U/S. £47 10s. per std., equals	Centering for concrete, etc., including horsing and striking, 70s. per sq.
1st 6s. 4d., 2nd 6s., 3rd and U/S. 5s. 9d. per ft. cube.	Slate battening, 23s. 6d. per sq.
	1-in. deal gutter board on firring, 92s. 6d. per sq.
	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. per ft. sup.
Boards, 1st £53 10s., 2nd £51, 3rd and U/S. £48 10s. per std.	2-in. do. do. 3s. 6d. per ft. sup.
	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 3d. per ft. sup.
Do. F.E., 3rd and U/S. £43.	Doors, 4-pan. sq. b.s., 2-in. 3s. 3d. per ft. sup.
	Do. do. do. 1½-in., 2s. 6d. per ft. sup.
Battens, 3rd and U/S. £38.	Do. do. molded b.s., 2-in. 3s. 9d. per ft. sup.
	Do. do. do. 1½-in., 3s. per ft. sup.
Yellow: 1st £62, 2nd £51, 3rd and U/S. £47 10s. per std.	If in oak multiply 6 times.
	If in mahogany multiply 6 times.
	If in teak multiply 7½ times.
Norwegian or Swedish: Boards, planed, U/S. £46 per std., equals 47s. per sq. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 8s. 6d., 1-in. 10s. 6d., 1¼-in. 13s. 6d. per yd. sup., average.
Flooring, P.E., U/S. 42s. 6d. per sq. of 1 in.	Staircase work, deal: 1-in. riser, 1½-in. tread, fixed, 4s. per ft. sup. 2-in. deal strings, fixed, 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 43s. per sq. of 1 in.	
Wainscot, oak, 3s. per ft. sup. of 1 in.	
Mahogany, 3s. per ft. sup. of 1 in.	
Do. Cuba, 4s. per ft. sup. of 1 in.	
Teak, 3s. 9d. per ft. sup. of 1 in.	
PLUMBER.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 65s. per cwt.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 1s. 9d. per ft.
Lead, milled sheet, 49s. 9d. per cwt.	Do. ¾-in., 2s. 2d. per ft.
Do. drawn pipes, 50s. 3d. per cwt.	Do. 1-in., 2s. 7d. per ft.
	Do. 1¼-in., 3s. per ft.
Do. soil pipe, 54s. 9d. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 8s. per ft.
Do. scrap, 23s. per cwt.	Do. 3-in., 8s. 9d. per ft.
Copper, sheet, 2s. 8d. per lb.	Do. 4-in., 12s. 6d. per ft.
Solder, plumbers, 1s. 5d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Do. fine, 2s. 1d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 7d. per lb.	Do. 4-in., 3s. 5d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
	Do. O.G., 4-in., 2s. 1d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 43s. 6d. each. Baths only, with all joints, 34s. 6d. each. Lavatory basins only, with all joints on brackets, 26s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4¼d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7¼d. per ft.
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing in beads, 21 oz. 1s. 2¼d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Cathedral, ordinary, 9¼d. per ft.	Patent glazing in rough plate, normal span, 2s. to 2s. 3d. per ft.
Do. double, 1s. 0¼d. per ft.	
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 3s. 10½d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 33s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on lathing, any of foregoing, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 65s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. fine, 66s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 2d. per yd. sup.
Genuine white lead, 85s. per cwt.	Do. subsequent coats, 1s. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 1s. 9d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 10s. per gall.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
	Stripping old paper and preparing, 2s. per piece.
	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Distemper, washable in ordinary colours, 55s. per cwt.	
Petrifying liquid, 3s. 6d. per gall.	
Double size, 6s. 7d. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	
Do. Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £47 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £35 per
Erector, 1s. 10d. per hour.	Do. in compounds, £39 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £38 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buil in, 57s. 6d. per cwt.
Mild steel in British standard sections, £31 per ton.	Do. in light railings and balusters, 77s. 6d. per
Cast-iron, heavy	Fixing only corrugated sheeting, including was and driving screws, 1s. 3d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £38 per ton.	
Do. Galvd., £49 per ton.	
Corrugated sheets, black*	
Do. Galvd., £49 per ton.	
Driving screws, galvd., 5s. 5d. per grs.	
Washers, galvd., 1s. 11d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	

NOTE: The prices have been amended to cover the recent increases in Railway Rates.

Department of Scientific and Industrial Research

The Lord President of the Council has approved the appointment of Colonel Sir Frederic Nathan, K.B.E., late R.A., to be Power Alcohol Investigation Officer, under the Fuel Research Board of the Department of Scientific and Industrial Research. The appointment of the Power Alcohol Investigation Officer has been made as a result of the consideration given by the Committee of the Council for Scientific and Industrial Research to the report of the Inter-departmental Committee on the production and utilisation of alcohol for power and traction purposes, which recommended the establishment of a small permanent organisation under the Department of Scientific and Industrial Research, to continue investigations into these problems. The Fuel Research Board propose to begin by bringing the work already being done both as regards production and utilisation of alcohol into proper focus. Professor Pierce Purcell, who was Secretary of the Irish Peat Inquiry Committee, has also been appointed to act as Peat Investigation Officer under the Fuel Research Board.

Among the research associations which have been approved by the Department as complying with the conditions laid down in the Government scheme for the encouragement of industrial research, and have received licenses from the Board of Trade under Section 20 of the Companies' (Consolidation) Act of 1908, are the following: British Iron Manufacturers' Research Association, Atlantic Chambers, Brazenose Street, Manchester, secretary, Mr. H. S. Knowles; British Portland Cement Research Association, 6, Lloyd's Avenue, London, E.C.3, secretary, Mr. S. G. S. Panisset, A.C.G.I., F.C.S.; British Scientific Instrument Research Association, 26, Russell Square, W.C.1, secretary, Mr. J. W. Williamson, B.Sc.

Schemes for the establishment of research associations in the following industries have reached an advanced state of development: British Non-Ferrous Metals Research Association, Scottish Shale Oil Research Association, and the British Electrical and Allied Industries Research Association.

Trade and Craft

Diploma of Excellence for Fiberlic.

Messrs. MacAndrews and Forbes, Ltd., of 2, Broad Street Place, London, E.C.2, have been awarded a Diploma of Excellence for their Fiberlic board exhibited at the Housing and Health Exhibition inaugurated by the Glasgow Corporation.

Notice of Removal.

Owing to the extension of business the present accommodation of the Building Products Company, Ltd., of Truscon House, South Kensington, S.W.7, is inadequate, and they have, therefore, moved into new premises at Columbia House, 44-46, King's Road, Sloane Square, S.W.3.

British China Trade Bureau.

The British China Trade Bureau (Publicity Bureau for South China) has been transferred to the Federation of British Industries, 39, St. James's Street, S.W.1. The Bureau has in its possession a mass of valuable information relating to market conditions throughout the regions in which it operates.

Our Small Advertisemen

This week architectural vacancies announced in the offices of Messrs. Ern Newton, R.A., and Sons, of Lond Messrs. Samson and Colthurst, of Bri water; Mr. Gilbert Fraser, F.R.I.B.A., Liverpool; Messrs. Gelder and Kitch FF.R.I.B.A., of Hull; and in the cou architect's offices of the Essex Cou Council. Architects' assistants are also quired for London and the South of land; draughtsmen for London Leeds; and a foreman and timekeepe required in connection with the erection cottages near Reading.

Two architects' assistants, both resid in London, desire engagements, and youth wishes to be articled to a qualif architect.

The R.I.B.A. announce that the ann exhibition of designs and drawings, s mitted for the Institute Prizes and Stud ships opened on January 20 in the Ro Institute Galleries, 9, Conduit Street, W

Architects are invited to submit desi for the rebuilding of the Victoria H Lecture Room, etc., in Queen Str Exeter. Premiums 100 guineas and guineas. Apply Mr. Matthew John Du ford, F.S.A.A., Secretary, 15, Bedf Circus, Exeter.

Tenders are invited for the erection fifty cottages for the Chertsey U.D.C.; 800 houses for the Sedgley U.D.C.

Two wood-framed poilite-covered h a 6 b.h.p. Crossley gas engine, and 30, green roofing slates are advertised sale.

Copies are required of the "Archit tural Review" for January and Novem 1917, and for October, 1918.

Wednesday, January 28, 1920 Volume LI. No. 1308

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

DETAIL BY DE LA FOSSE (III.).

27-29 Tothill Street, Westminster, S.W.1.

The Royal University, Genoa: Detail of Ambulatory

The external loggia offers many possibilities in relation to buildings of an official character, especially for connecting departments by means of outside passages. This example combines fine scale with architectural dignity.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, January 28, 1920 Volume LI. No. 1308

Slandering a Great Industry

BASTE the Builder is a companion game to Buffet the Bear. Like the bear, the builder is heartily belaboured beyond his deserts, and seldom or never ventures to retaliate. Hitting back is not in accordance with the rules of the game. There are, however, occasions on which he feels constrained to protest. That happens when the buffeting is cruelly unfair. Ordinarily the builder is content to accept the convention that he is "fair game" for the cynical humourist. He recognises that without the customary caricature of him the *comédie humaine* would be strangely incomplete. He has grown accustomed to the stale old jests about 'Uncle Jerry," whose house survived the gale because luckily the walls had been papered, and he has laughed at them the more heartily for knowing them to be ludicrously untrue.

But occasionally the attack gets beyond a joke, and becomes an outrage. No matter how tolerant he may be of comparatively innocuous ridicule, the builder draws the line at charges of fraudulent collusion. Of late, such charges have been insinuated much too freely to be allowed to pass without vehement protest and emphatic rebuttal. Let it be granted, as an argumentative point, that there may be some few instances in which such accusations are justified. Nevertheless, it must be remembered that builders are a very numerous body. They are engaged in the largest industry in the kingdom except agriculture and engineering, and it would be marvellous indeed if among so many men there were none of questionable character. But this natural and inevitable inference does not justify the insinuation that most builders are scamps. No one (except the late Justice Grantham) would be so idiotic as to make such a transparently false generalisation. Since the national housing scheme started, however, a few public speakers, and many writers in the newspapers, have come perilously near to branding the entire industry as profiteers, bent on making money out of the nation's exigencies. To make the charge bluntly would be to slander grossly an honourable body of men.

Looking at the matter dispassionately and reflectively, it seems quite natural, if not exactly reasonable, that these wild charges should have been made. There was an inexplicable failure to make headway with the national housing scheme. The public will never admit that there are cases in which nobody is to be blamed. Always it requires a scapegoat. Everybody, from the Prime Minister downwards, has been kicked—whether rightly or wrongly the public does not care. It is now kicking the builder, and kicking him hard, without troubling to inquire whether he is guilty or not guilty of the offence for which they would make him suffer. It is John Bull's way. If anything goes wrong, somebody has got to be hurt, if not hanged, whether he deserves it or not. Housing has gone wrong. Who is to blame? Not the Prime Minister, not Lord Downham, not Dr. Addison, not the municipalities. It cannot be any of these, for they have all disclaimed the responsibility. Who, then, shall we kick? Why, of course, the builder! How strange that he should have been the last resort instead of the first! If houses are dear, who makes them so? Who but the builder?

But the builder is becoming restive. This campaign of insult and slander is getting on his nerves. Hitherto he has suffered it in silence; now he is bent on rebutting pretty vigorously the odious charges brought against him so wantonly and so recklessly. In one word, there is not the slightest truth in them. As the result of careful inquiries in many directions, we feel fully entitled to declare, with the utmost confidence, that there are no rings of organised builders.

Mean-minded persons jump at once to the conclusion that if builders were not actually organised for this very object of forming rings, they must have been quick to see and to seize the opportunities that organisation gave them. This misconception of the motives and objects of organisation is absolutely fatuous. It ignores the vital fact that there is safety in numbers. The reputation of the National Federation of Building Trades Employers is even more widespread than its name implies. The Federation is known and respected at the far ends of the earth. Who but a shallow-minded and short-sighted fool could for a moment imagine that so representative and so honourable a body, comprising the élite of the building trade and having behind it so fine a record of wisdom and fairness in all its dealings—ay, and of honourable service to the community, as well as to the great industry of which it is the heart and mind—should suddenly with one consent throw reputation to the winds? Its numbers and constitution offer the strongest possible guarantee against such an outburst of criminal folly. In its huge membership there must be—as we know well that there are—many men of the highest type of character that our race produces. Is it conceivable that they would consent to the odious malpractices with which the entire trade has been so recklessly charged? Such a supposition would be idiotic beyond words. It does not rise to the dignity of a libel. It is a silly slander, which no member of the Federation would have thought it worth while to refute were it not that members of the Government were giving it currency. That was the last straw. Organised builders then felt themselves bound to take notice of it, and to give emphatic and categorical denial to the lie. If, in their just indignation they go further than mere repudiation and denial, their action will not be surprising; for they have deserved better at the hands of a public which they have just rescued from a very awkward situation in the matter of national housing. Moreover, it is they who, by means of their humanely conceived and sagaciously administered system of Conciliation Boards have shown the way to industrial peace. To traduce them is rank ingratitude as well as gross injustice. The National Federation is holding its annual general meeting to-day, and the report of its proceedings will probably show what steps are being taken to expose the meanness and falsity of the "ring" allegation. (See also article on page 115: "Is there a Building Ring?")

Notes and Comments

Housing the New Poor

HOW are the New Poor to be housed? Much less expensively than the new rich. That is the only certain factor in a problem of which no very satisfactory means of solution is as yet in sight. By the New Poor is meant those whose incomes are relatively or even absolutely less than they were, and who therefore find it necessary to adopt a reduced scale of living. In particular, they cannot afford to inhabit and maintain the "commodious residence" to which they had been accustomed when their pound sterling had more than twice its present purchasing power. Such houses are being converted into flats to the grave discontent of their former tenants, who now have the prospect of paying more rent for the half than they formerly paid for the whole. If, preferring to live in a villa, they seek one in the remote suburbs, they will hardly find it just now; and the threat to double the present extortionate railway fares complicates the case to exasperation. This is a matter in which the architect can render valuable assistance, the problem being to devise a superior type of medium-size house that shall be within the means of the New Poor, whose standard of taste and comfort has not depreciated commensurately with their incomes. In planning for the new social conditions the architect will not forget the hard case of the unmarried gentleman or gentlewoman who is compelled to live in town, cannot afford a flat, and abominates the old type of boarding-house. For all but exceptional persons the extension of the hostel system seems to present the only way out; but developments of central heating and co-operative cooking schemes may soon alter the entire aspect of the question, while the zone of "satellite cities" that is soon to encompass the metropolis may solve the problem on entirely different lines.

Mr. H. A. Bartlett

It is with deep regret that we record the death of Mr. Hardington Arthur Bartlett, who was the eldest surviving son of Sir Herbert H. Bartlett, Bart. Mr. Hardington Bartlett was fatally injured in a mail-boat accident off Ostend on January 11. He will be sadly missed. His singular charm of manner endeared him to all, and his special capacity, sedulously cultivated, for business affairs, was of great value to Messrs. Perry and Co., Ltd., the eminent firm of contractors, in which he was following in the footsteps of his father, to whom the building industry, no less than London University, is indebted for munificent endowments in the architectural department. Sir Herbert Bartlett, it will be remembered, is a past-president of the London Master Builders' Association. The son who now becomes heir to the baronetcy is but fourteen years old.

Town Development Round London

All round London the borough councils are busy with housing and town development schemes. They are in the right frame of mind for spending large sums of money on them; how the wind sets being naïvely indicated by a mayor of a south-eastern borough. "Houses have got to be provided," he said in effect, "and through Imperial taxation we have got to pay for them when they are built in other parts of the country. Why should we not have some built here, and thus get our share of the State subsidy?" That clinched the argument, and it was decided to adopt a development scheme. It is sordid reasoning, but it is effectual: all round London the borough councils are about to build, and it is feared that they will not always do it quite discreetly, upon a central plan. They should be solemnly warned against the dangers of independent, unrelated action, and also against the ruthless obliteration of park-like lands, and the unnecessary destruction of any of the many fine mansions that exist on the outskirts of the metropolis. In most cases these could be preserved as civic centres, and thus made to enter on a new career of usefulness, as well as being left to stand as monuments of the period to which they belong.

Architects and Sanitary Engineers

Is it a portent? Mr. E. C. P. Monson, F.R.I.B.A., was no doubt correct in assuming that he is the first architect to be elected president of the Institute of Sanitary Engineers, and, like Bunyan with his dream, we "wonder whereto this thing may grow." Mr. Monson, though the first of his illustrious line, must not be the last. A special reason for rejoicing when an architect became President of the Royal Academy was the assurance it conveyed that the Academy was not a close preserve for painters, that the claims of the Mistress Art were no longer ignored, and that an important step towards unity and co-operation had been secured. In relative degree the case of the Sanitary Engineers is similarly significant. Obviously it makes for unity and co-operation. Hitherto there has been a most foolishly wasteful separation of the various professional organisations into watertight compartments, with the consequent exclusion of much reciprocal helpfulness and goodwill. Professional associations would gain much by greater freedom of exchange. They have much to learn from each other, and therefore their members should mingle more freely. The Building Trades Exhibition, of which the revival this spring is extremely welcome, will give a valuable opportunity for casual commingling of professional men of various vocations; but it might well be made the occasion for some sort of pan-professional federation, of permanent constitution, for the interchange of courtesies and ideas, for the prevention of the many misunderstandings that arise from ignorance of the minds and motives of "the other fellows." But, reverting for a moment to Mr. Monson (to whom our congratulations), we venture to draw his attention to "A Hint to Sanitary Engineers," published on page 73 of last week's issue. This was written in oblivion of his election as president, and may therefore be taken as spontaneous opinion that good should come from the co-operation of the architect and the sanitary engineer.

The Breaking-up of Great Estates

Those who are anxious for the preservation of monumental buildings should now be alert and busy. They should have the eyes of Argus and the hands of Briareus; for in all directions great estates are being sold, and in many cases broken up, the transaction always carrying with it the dire possibility that the historic mansion that graced the domain will be abused if not demolished, if it does not happen to be scheduled under the Ancient Monuments Preservation Act. True, this Act was devised—much too late, and only after much irreparable mischief had been done—to prevent the alienation or destruction of objects of historical importance; but its administration becomes a matter of extreme difficulty at a moment when great landowners begin with one consent to shed their responsibilities. Many of the (comparatively) small holders who succeed them may not be aware of their obligations under the law, and should promptly be apprised of them officially. It would seem, however, that in the present rush of work, the administrators of the Act will be in need of skilled advice and assistance, which, we suggest, could be best secured through the various architectural organisations. All the architectural

monuments worth preserving are well known to the members of the various local associations, some of which call themselves "architectural and archæological." To these associations we look confidently for the vigilance that shall preserve many a noble fabric from ill-usage.

Great War Memorials

The Duke of Connaught, Grand Master of English Freemasons, has signed an appeal to members of the craft to subscribe a million pounds sterling towards a "great central home" for Freemasons, to be erected in "the metropolis of the Empire" in memory of the many brethren who fell during the war. There is no doubt that the masons will "design in beauty and build in truth." Apparently Labour also is going to do itself justice in the matter of a war memorial. Subscriptions are coming in so satisfactorily as to justify the ambitious scheme of spending a million and a half sterling on the erection of a congress hall, for which, it is said, a site at Bloomsbury has been offered. The buildings will include, besides the hall, a large hotel, and it will be interesting to see in what respects, if at all, this will differ from hotels of the conventional type, which rather tend to pomposity in the design and gorgeousness in the equipment. Labour should resist these vices and go in for substantial merit. The architect who secures the work will have an enviable opportunity of expressing Labour's new aspirations and ideals. The Jewish community are also raising a million pounds for a war memorial.

Communal Skyscrapers

It is painful to see a man of Sir Martin Conway's eminence and influence advocating so foolish a notion as that of setting up skyscrapers in London. They are hideous, they are domineering, nerve-wracking, and disease-promoting, and Londoners have no use for them. Sir Martin thinks that buildings thirty or forty stories high would be a boon to workers, and solve the housing problem; for it is as communal dwellings that he would have these monstrosities erected. Mr. William Woodward has thought it worth while to answer him seriously and at considerable length; but the idea is too preposterous to merit much attention. Unlike New York, London has an ample capacity for lateral expansion, and—again unlike the American capital—has too lively an experience of air raids to increase the risk in the reckless manner suggested by Sir Martin, who must surely be trying the effect of an essay in leg-pulling.

End of the Moulders' Strike

Of the folly and wastefulness of labour disputes, the ironmoulders' strike, which came to an end last Thursday, is a flagrant example. It lasted seventeen weeks, and deprived the men of about three million and a half in wages. What is worse is the hardship it inflicted on other industries—those dependent on castings—several of which were brought to a standstill, thereby losing some seven millions of money. Nor does the mischief end at that. There are consequent losses that cannot be easily expressed in figures. Many of our industries—including certain sections of the building trade—have been seriously becalmed at a time when to go full steam ahead is urgently necessary for the avoidance of shipwreck. The strike has caused builders more anxiety than actual loss; and its absolute futility should serve as a warning to the workers in other trades, whom it should convince that there are economic limits which it is dangerous to surpass.

Devonshire House Rumours and Denials

The rumour that Devonshire House had been sold to an American syndicate has been contradicted in the agony column of "The Times," where it is stated on behalf of the owners "that certain negotiations have been in progress, but there is no final contract." From the owners a boon should be craved—that they make it binding on the purchasers to obtain the approval of the R.I.B.A. for the designs of any building proposed as a substitute for Devonshire House. Some such precaution is certainly necessary to prevent any possibility of killing the district by the erection of some flaunting monstrosity conceived upon a jazz impulse. So magnificent a site should not be at the mercy of speculative syndicates. Though conventionally it belongs to private owners, the public have really more interest in it than they, and should have a voice in deciding what is to be done with it.

Mr. Bernard Shaw on Building

Mr. George Bernard Shaw seems to have let himself loose on architecture. What he said about it has escaped us, but the gist of his deliverance may be inferred from the comments of "an eminent architect" who was interviewed on the subject by a newspaper writer. From these it would seem that Mr. Shaw thinks that the monuments of antiquity are, like the works of Shakespeare, greatly overrated, and that he would have no hesitation in demolishing the lot to make way for better. Would that we had Mr. Shaw's firm confidence in the architectural genius to-day! We trust that it is not misplaced, however immodest the assumption that we could, if we had the chance, surpass the Taj Mahal, Santa Sophia, and the Parthenon, to say nothing of the Palace of The Hague—of which, indeed, it were better to say nothing. Mr. Shaw's perversity being chronic and incurable, it was wasting the time of the "eminent architect" to extract from him the remonstrance that in detracting the monuments of antiquity Mr. Shaw showed his lack of historic sense. Mr. Shaw often resorts to extravagant detraction as a corrective to extravagant adulation.

Wanted, a National Research Laboratory

What is known about the nature and qualities of building materials? Very little. Physical properties—weight, strength, density, and the like—have been fairly well ascertained, especially with respect to cement and steel; but the more delicate operations of the laboratory have not been employed to any great extent in testing other materials. Research work in this field has been pursued with vigour and success in some of the American universities, where important conclusions have been reached regarding many points on which the architect and the builder were greatly in need of more precise information, but in our own country comparatively little has been done. We should build more economically as well as more safely if we had more exact knowledge of the strength or weakness, fitness or unsuitability of the materials we use, and doubtless of some that as yet, through ignorance of their properties, we do not use. In any reasonable system of national reorganisation a research laboratory for the building industry should be regarded as indispensable.

Building by Direct Labour

At Walsall, the master-builders have entered a vigorous protest against direct-labour building by the corporation. Unfortunately their objection was not upheld. There was, however, a lively debate on it by the Town Council, in course of which a few hoary fallacies were exposed. For instance, the alderman who said "the only reason he could think of for the builders not wanting houses built by direct labour was that the Council would by that method ascertain what the actual cost was, and what the profit amounted to" was promptly called upon to withdraw the insinuation. He did so; but he should really try to "think of" some more reasons why master-builders object to being deprived of their livelihood. Besides, the master-builders can justly plead the public interest; for, as Mr. Davidson, of Leeds, has proved up to the hilt, the direct-labour system nearly always results in a loss.

Architectural Causerie

THE twenty-four-hour clock will soon be seen more commonly in the streets of London; but the experiment may share the fate of its predecessor of twenty-four years ago, when a movement in favour of Continental time caused tremulous vibrations in Clerkenwell. But the times have changed, and we with them, and it may be that the twenty-four-hour clock-face is to become familiar in other places besides Greenwich Observatory. Those of us, however, who are old enough to recall the former proposal shudder at its threatened repetition; for it is with clocks as with persons, first impressions are lasting. We take instinctively to a face of character, even if it be but a clock-face; and, of course, the converse is equally true.

* * * *

Nobody will have the hardihood to deny the architectural interest of clocks. Are they not indispensable to public buildings? And they have an entity entirely their own, especially our friends the clocks of London Town. It is, indeed, curious that interest in the genius of the horologist lies more in the past than in the present, and this in spite of wrought-iron curiously shaped and gilded, of faces that advertise all sorts of wares and light up in anticipation of friendly recognition when the twilight heralds the homeward rush.

* * * *

Clocks there be that possess an interest that is intensely human. These are not, let it be understood, the time-pieces clad in motley that stare with inanity, if not with mockery, on the unfortunate traveller hastening to catch a train and that, suddenly yielding to an electric spasm, treacherously jerk the minute-hand forward half a minute, thereby losing the man his train by filling him with despair of the achievement. Such inventions may be useful from the need of time standardisation, but they are seldom beautiful, and it is for this reason we prefer our old-fashioned friends.

* * * *

For old acquaintance sake we forgive our familiar friends the ancient clocks all their little failings, their fibs, procrastinations, or their slight tendency to a fast life. Besides, they constrain us to condone their faults in consideration of their hereditary good breeding. They beguile us into accepting their decisions as part of the feudal system. On the other hand, we can hardly expect to entertain any respect for a clock the minute hand of which, after remaining motionless for a seemingly indefinite period, suddenly jumps forward three points, and stands stock still again. So capricious an upstart shall not lightly win our confidence. When we architects walk the narrow ways of the City of London it is comforting to observe the clocks of the churches projecting from the sides of the tall towers. Perhaps good Sir Christopher intended his stone giants to warn posterity of the dangers of delay in matters both mundane and spiritual. Is there anything in the City more familiar to Londoners than the friendly clock of Bow Church, peeping up and down Cheapside as though amazed at the changes that time has wrought there? It is the doyen of the City clocks—that is to say of all the tribe under the domination of "Paule's." This clock of Bow Church has a wise and solemn look. If it cared to speak—perhaps it does when the streets are silent—it could tell tales of Solar Time, of the Cycle of the Sun, of Sidereal Time, the meaning of the Golden Number of Meton, the Epact, the Number of Direction (a back number like the rest), and the mystery of the Julian Period. Thomas Tomkins, of Northill, in Bedfordshire, had long established his fame as a clockmaker when Sir Christopher passed the account for the timepiece to B Church, and complimented the carvers on their skill devising the case.

* * * *

Nor must we forget the love our forbears showed clocks made curious with automata. How delightful would be to stand in front of old St. Dunstan's Church, Fleet Street, to catch a glimpse of the masterpiece ma by Thomas Harrys, who surprised the citizens of year 1671 by devising a clock-case with two dials, a Father Time standing on the extremity of the brack In a sort of architectural temple, forming the backgrou of the scene, were the gaudy figures of Gog and Mag ready to bring their clubs into play and "ting-tang" quarters. No wonder Londoners of 1830 protested wh the whole contraption was removed to Regent's Pa thanks to the Marquis of Hertford, who preserved t unique design in the gardens of his suburban villa. Cheapside Bennett's, the clockmakers, have attempte replica of this idea for the amusement of our coun cousins, and there are few of us who do not pause to how the thing works.

* * * *

In the realm of London clocks the great clock of Paul's lords it over the underlings. He is enthroned one of the eyes of the campanili of the met politan cathedral, and quizzes the doings of Ludgate H and Fleet Street like an old-world beau. Perhaps Christopher intended a queen-consort for the other spa and was only prevented from incurring the expense the machinations of Colin Campbell. This mighty ho bell is not Paul the First, but is a good monarch, a booms his commands by day and night to all his co The clocks of London have the happy knack of fitt their situations. We respect the gilded face of the cl to St. Mary Woolnooth, which governs the wealth Lombard Street with a look of prosperity and pen nency. It is possible that this clock commiserates w the lesser clocks safely ensconced behind the dark wa of the Bank of England, from the chaste and dignif regulator in the public corridor to the Sheraton babo clock in the Governor's Parlour. And so we traverse byways of the City, nodding to friendly faces and co ing the design of costly cases, whose number is legion.

* * * *

And so to the City of Westminster, which has a lar clock than London proper. Looming far above petty clock of the Horse Guards, and ignoring the ent length of Victoria Street, Big Ben, the largest "gra father" in existence, challenges not only the distant K Paul, but the tidal regularity of old Father Thames; fact, folks declare that on nights that are starlit and st his guttural note reaches the northern heights. Does endeavour to send a message to the cottage long-c clock at the corner of St. Pancras Station, and attempt disturb the latter's conversation with the Scotch crony a Tam-o'-Shanter at King's Cross? Who knows?

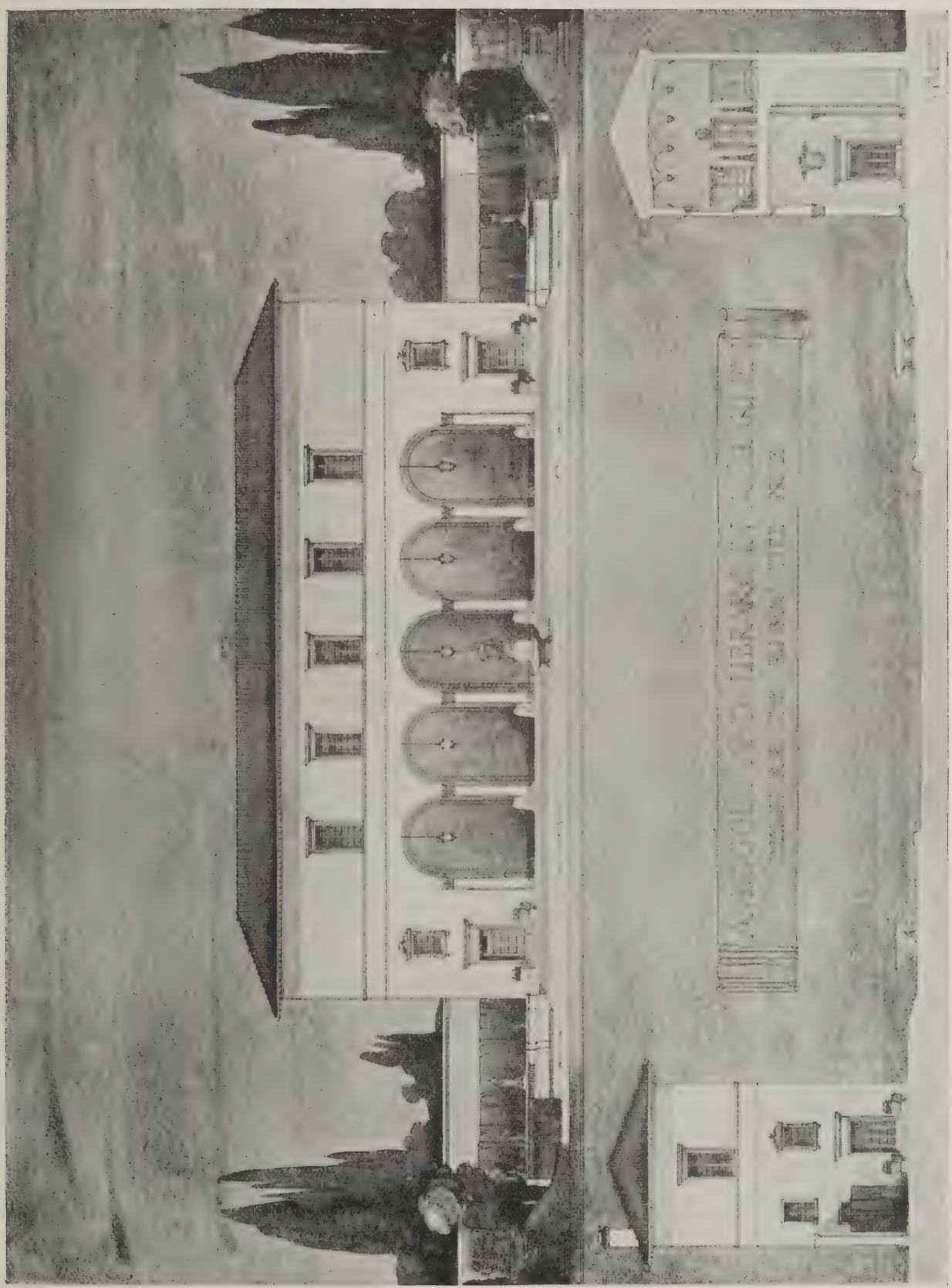
* * * *

Piccadilly enjoys the musical quarters of the clock St. James's Church, the works of which lie snug in body of the turret. There is the beer-barrel clock-c crowning the steeple of St. Anne's, Soho, put up Professor Cockerell's father to let people know of existence of a Brewery east of Swallow Street. A there are numerous other examples of the art and craf horology to give piquancy to otherwise dull distric London is rich in collection of fanciful and historic cloc Nearly every church possesses one, nearly all the pul buildings are enriched by a large clock either inside outside, and in every instance the feature is interest and useful if not beautiful.

AERO

The Tite Prize: Winning Design

By P. H. Meldrum.



Mr. Meldrum, in the above design, has produced a simple and pleasingly proportioned elevation. The absence of a cornice or fascia will be noticed, also the use of columns instead of antae at the ends of the arcade.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Drawings for R.I.B.A. Prizes and Studentships

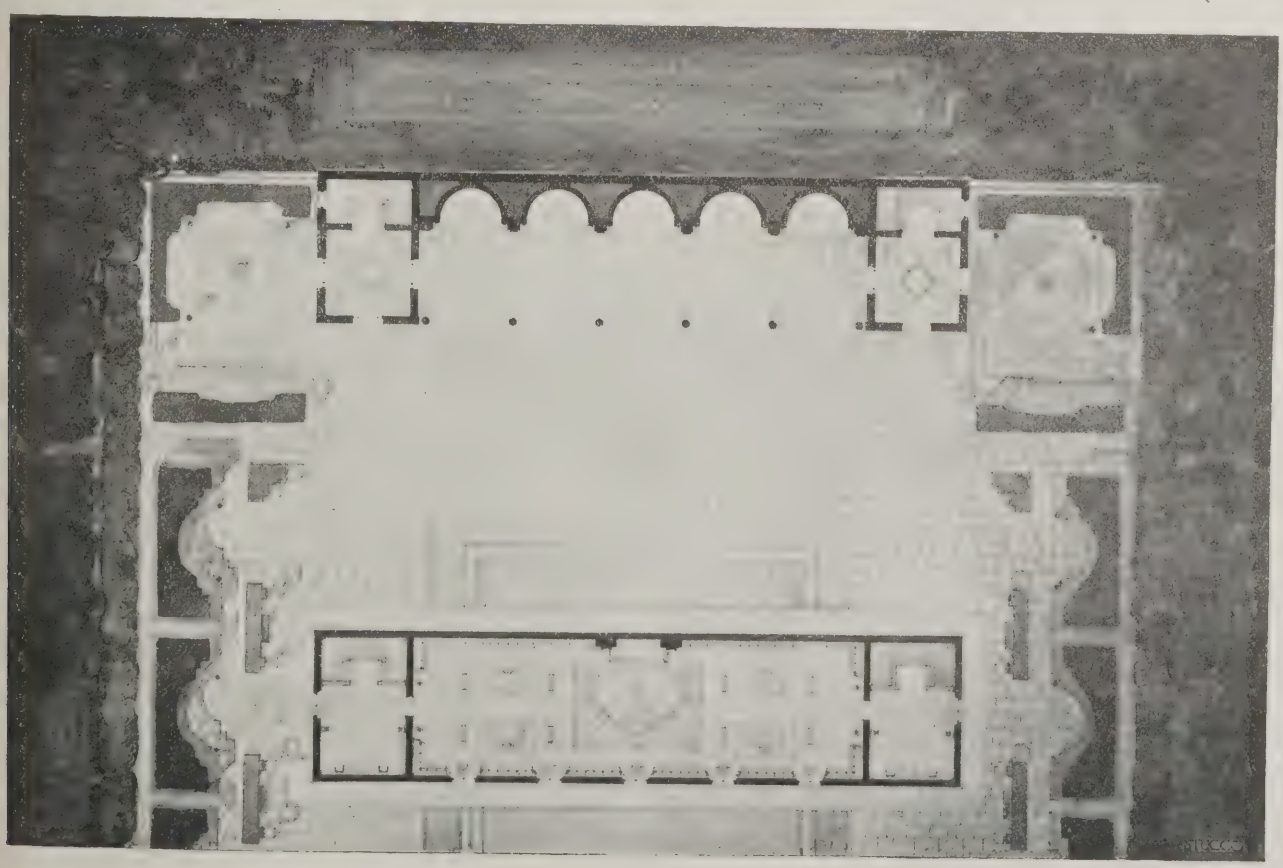
ALTHOUGH the entry for the larger prizes has been small, there are many good drawings in the exhibition at the Institute this year. No one will disagree with the way in which the prizes have been awarded; but a certain amount of criticism might justly be levelled at the conditions governing some of the competitions, notably that for the Soane Medallion. For this the subject was a "Design for a Bridge over a River, with Covered Footways," with "a building which closes the vista on the north side at a distance of 1,000 feet from the centre of the bridge." One wonders why a covered footway was specified. Unless the whole town were colonnaded there seems no reason for this arrangement; a covered footway on the bridge alone would be an invitation to loiter there. Traffic would be obstructed, and congestion where it is least desirable would be the result.

The winner of the Soane Medallion is Mr. A. G. Shoosmith, whose design, under the motto of "Victoria Dedificatrix," maintains the best traditions of the competition. His solution to the problem, no easy one, is simple and monumental. Pylons mark the entrance to the bridge on the south bank; the covered footways run along either side to a great arch, which ends the bridge on the north. A great space is left in front of the central building, from which roads branch on either side. The drawings are well worth study. There is no striving after effects in draughtsmanship here; one feels the subject has been approached in a thoroughly architectural manner.

A certificate of honourable mention has been awarded to Mr. G. A. Rose ("City Centre"), the only other competitor. There are eight strainers of Mr. Rose's work. While the whole design has been carefully considered, far more attention has been given to the lay-out of the town on the north bank than to the bridge itself. The most obvious criticism of the whole scheme would be that the central building with its fountains in front would be an obstacle to the main communication.

TITE PRIZE: DETAIL OF FAÇADE OF WINNING DESIGN.

The subject of the Tite prize, "An Open Loggia with Library Over," has tempted many more students than any of the other prizes. Mr. P. H. Meldrum ("Stucco")



THE TITE PRIZE: PLANS OF WINNING DESIGN. BY P. H. MELDRUM.

is placed first, with a good plan and a simple and pleasingly proportioned elevation. The chief defects of his design are, perhaps, the lack of a cornice or substantial fascia to crown the building, and the use of columns instead of antæ at each end of the arcade.

"Exul," Mr. V. O. Rees, has gained an honourable mention. His drawings are in monotone. The plan and composition are good, but the design is marred by the details and by the manner in which it is presented.

A uniform and attractive set in warm colours is submitted by "Mask." The draughtsmanship is clever and decided. His solution is good and the lay-out simple, but the wall painting and general detail is rather in the modern Italian style than according to the methods of Palladio and Vignola. The design presented in a delicate set of drawings under the device of a spade on a red triangle hardly provides an open loggia, and the main piers of the façade are broken into by small windows, which are made necessary by the arrangement of the bookshelves in the library.

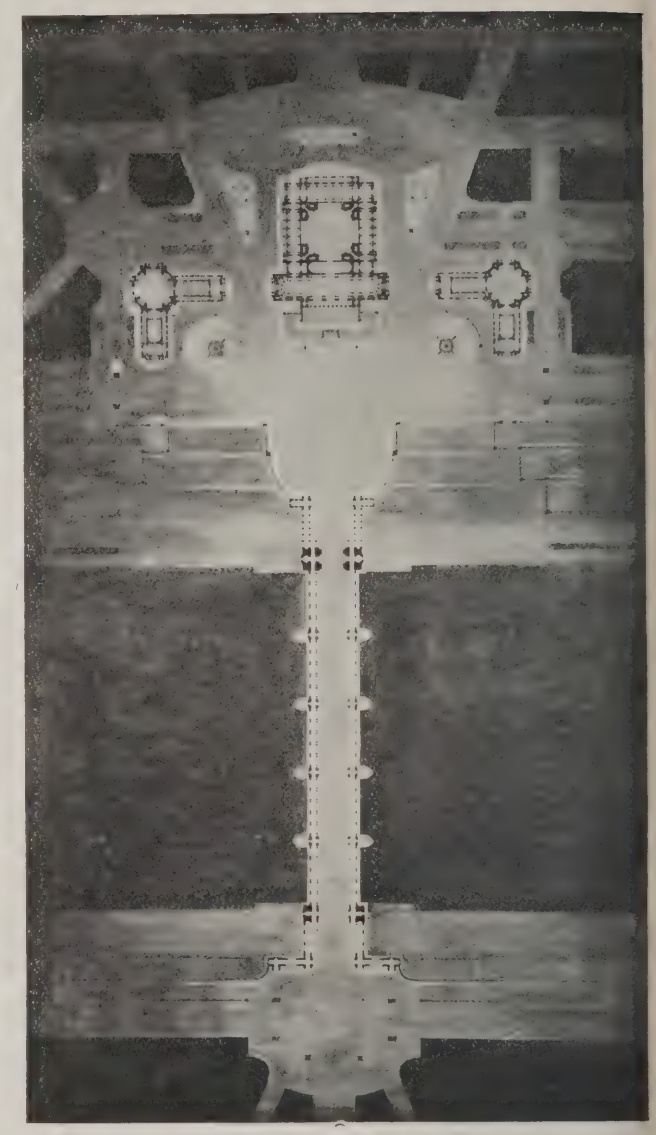
"Eureka" has taken Sanmichele and Sansovino as his masters, and has produced a satisfactory design. In the perspective, however, the building is treated too much as a mere incident in a landscape.

"Lorenzo de Medici" has rather a larger building than is meant by the conditions. There is also a marked inconsistency in the medium employed and in the choice of colours.

The framing of perspectives or elevations with overhanging trees does not necessarily conduce to the effective illustration of a design. Apart from "Ubique's" terrifying colours, his scheme has some good features. "Venus" by his treatment has succeeded in confusing the whole purport of his design. "Liber" has a mediocre design—faintly drawn. "Job Conway" would have been well advised to stick to monotone. His design has many faults, and he has used motifs without understanding their significance.

In the competition for the measured drawings medal Mr. A. F. E. Poley (Iris) has chosen the finest subject, and is placed first with a neat and careful set of drawings of St. Paul's Cathedral. His work is a testimony of careful study. In the casting of shadows, and in the rendering, Mr. Poley shows some timidity, and his drawing of the main façade suffers by the accentuation of wrong details; for example, the clock is the darkest part of the whole drawing, while the shadow under the portico is in comparison barely indicated.

"Sapper" has a pleasant study of the Royal Hospital, Chelsea. It would be well worth while completing this set of drawings. "Rex," who takes the Manchester Free Trade Hall, has quite unnecessarily, sprayed all the white of his paper practically black. The result is somewhat depressing, particularly in the case of the full-size details, which are done on tracing paper. "Eve" has devoted his studies to Hopetown House. Three of his four drawings show the plan, which is not a particularly good example of English Renaissance planning. He has



SOANE MEDALLION: BRIDGE PLAN AND APPROACHES.

THE SOANE MEDALLION: PERSPECTIVE OF WINNING DESIGN. BY A. G. SHOOSMITH.

The Soane Medallion: Detail of Winning Design

By A. G. Shoosmith.

The subject for this year's Soane Medallion was "Design for a Bridge over a River, with Covered Footways." Mr. A. G. Shoosmith, the winner, maintains the best traditions of the competition, his solution being simple and monumental. The treatment of the bridge's abutments and its covered footway is particularly interesting.

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details or section, and the drawing of the elevation is her scamped. "Mesnil" has applied himself con-entiously to Archbishop Abbot's Hospital, Guildford. t seems a pity that the profound knowledge of con-uction manifested in the competition for the Grissell ze never seems to be able to produce anything of real hitectural beauty. "Triard" is the only one who has empted to produce anything more than the bones of structure, but his campanile design can hardly be led very successful. The award goes to Mr. F. H. aven, author of the design submitted under the motto oncrete."

For sheer draughtsmanship the drawings for the Pugin ıdentship are probably the best in the whole exhibition, hough there seems no reason why the study of diæval work should call forth a higher standard of ıwing than any other period. The regulation limiting number of strainers to four, combined with the other terms of this competition, has the unhappy effect of making each strainer look like a patchwork quilt. Drawings of all sizes, in ink line, in pencil and in colour on different papers, are dove-tailed together on a single sheet. This practice is specially to be deplored when the individual sketches are so good. Many of them deserve mounts to themselves. Mr. H. St. J. Harrison has been awarded the Studentship, and a Medal of Merit has been given to Mr. G. Holt. The third competitor was Mr. Edwin H. H. Williams. The Owen Jones Studentship has been awarded to the only competitor, Mr. G. F. Quarmby. It is difficult to see how some of his studies can have any direct bearing on architecture. In his original design for a "Council Chamber" the plan is not very satisfactory, and his treatment of the interior inclines to over decoration. The colour scheme also is not entirely convincing.

H. CHALTON BRADSHAW.

Is there a Building Ring?

REITERATED allegations of the existence of a colossal building ring, formed to force up prices, have led us to make inquiries among those in a position to know whether the usation is true or false. On all hands we are assured, d we are and always have been thoroughly convinced, t there is no builders' ring. One of our advisers—a ntleman of high standing, who is in a position to know ereof he testifies—agrees with all the others in deny-most emphatically the existence of any building ring the sense imputed by the traducers of the industry. s statement explains very frankly the present position the builders, and is in effect a complete refutation of slanders levelled against them by irresponsible or erested persons.

I can state emphatically (says our correspondent) t, so far as my experience goes, there is no ganised ring in the building trade. The abnor-l conditions, however, are such as may give e to a feeling that prices are arranged. First, it may pointed out that most firms can readily obtain all the rk they require, and that when tendering for a job er which they feel indifferent the natural thing is to ote a high price, either with a view of not obtaining contract or, if secured, then the work at the price will worth while. Assume for a moment that all the ilders selected to tender for any particular job feel lifferent, in that case the prices may all be high, and ıs give the impression that a ring has been formed.

Here let me say in passing how the architect's reputa-n influences prices. For some architects the builder st, in sheer self-defence, quote high; because they are y exacting, unduly expensive in detail, and in other ys cause expense to the builder for which the client eives no benefit. These architects, you will notice, always having fresh builders to tender for their work. architect of a very different stamp is he who justifies builder's confidence of fair and honourable dealing. the builder shows that his desire is to give a good job d take a broad view, this type of architect is not afraid letting him make a fair profit. This is the type of hitect to whom the builders willingly quote low prices; d I can assure you that in such circumstances the nt scores every time, getting good service at low t. The real issue, in my opinion, is the question of ing and giving prices. All builders receive more itations to tender for work than they wish to quote . This was so in pre-war days. The reasons are:

(1) Every builder of experience meets with certain hitects, surveyors, or clients, for whom, for various sons, he does not wish to work.

(2) The particular job may not appeal to him.

(3) He may already have enough work in hand for his capital or organisation.

(4) He naturally wishes to save expense in quoting for work that is no use to him. (The estimating office is the most expensive section of the builder's office.)

What are the alternatives in these circumstances? They are:

(a) To inform the architect that one is too busy to tender.

(b) To take a price for the work from another firm tendering.

With regard to item (a) there are objections to this course. The architect might take the builder off his list, and he would not be asked to quote for another job later when he would gladly do so. His refusal may even offend architect, surveyor, or client.

With regard to (b) it has always been rather common practice for a builder, when he does not require a job to which he has been invited, to ring up a builder who he thinks may be tendering, and arrange to take a pric In normal times no one suffers by such practice, as there are always enough builders keen on the job. But as things are now it might quite well be that several of the firms take prices, and others take prices from those who themselves have taken prices, and, in the result, only two or three are genuine prices. This may be regarded as a ring, but it is unarranged, and it is entirely free from all taint of collusion. There is no sinister motive in it. It is a result of the present conditions, and I believe that it very rarely boils down to only one genuine price.

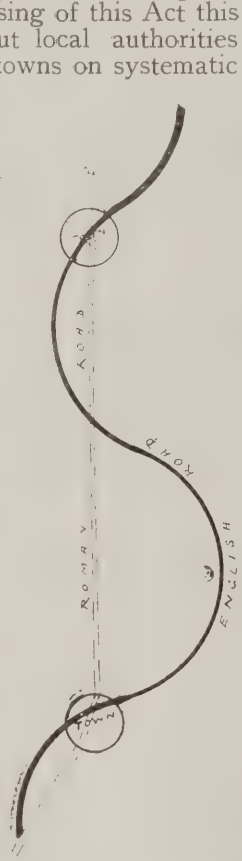
I am speaking from my knowledge of a common practice in which I am personally detached. I do not take prices. I either return the bills or protect myself by quoting high. My estimators are not allowed to send in any price without my approval after careful considera-tion of all the circumstances. If, as sometimes happens, I see reasons for not wanting the job at any price, I naturally quote accordingly. In no circumstances would I be a party to any scheme of agreement as to a complete list of tenders before the event; and this, I take it, is what is meant by those who accuse builders of forming rings.

No; it cannot be truthfully said that there are any organised rings. Isolated cases there may be, pos-sibly. But these are on the fringe of the trade —not among those who count. The present facts are clear to those who have any foresight, and will soon be patent to the short-sighted. There is more work on hand and coming forward than can possibly be done by the men available, and this in itself will tend to keep up prices. If clients could only realise the position, they would employ reputable firms and agree to pay a fixed fee for their services.

The Evolution of Road Planning

By E. R. MATTHEWS, B.Sc., Assoc.M.Inst.C.E.

THE passing of the Housing and Town Planning Act, 1909, enormously increased the interest in town planning, including ancient town planning. Previous to the passing of this Act this subject was generally neglected, but local authorities (under this Act) can develop their towns on systematic lines. They can determine the width and direction of all new streets, as well as the methods of constructing them. They can decide where open spaces shall be left in the development of estates. They control the number of houses that may be erected per acre, demand reasonable beauty in the design, plan arterial roads connecting not only the commercial portions of our cities, but link up the heart of the city with the suburbs, and in many cases, jointly with the County Council and Rural District Councils, together with other local authorities, they can arrange for main arterial roads to be constructed between towns and cities of importance. Local authorities, therefore, are naturally devoting much attention to town planning, and are often wondering how the possession of such powers will affect their own particular town or district.



1. ROMAN AND ENGLISH ROADS.

There is now scarcely a town of importance that has not already in course of preparation a town-planning scheme. In may cases it has already received the sanction of the L.G.B. or of its successor, the Ministry of Health, as in the case of the Birmingham and Edinburgh schemes. It is not surprising, therefore, to see such keen interest being taken in the lay-out of ancient towns. For the benefit of those who are responsible for the carrying out of schemes the author has co piled a few notes regarding the ancient planning of roa For further information on this interesting subject would refer the reader to that delightful book of Mr. Haverfield's, "Ancient Town Planning" (Oxford U versity Press), which contains much useful informat on this branch of the subject.

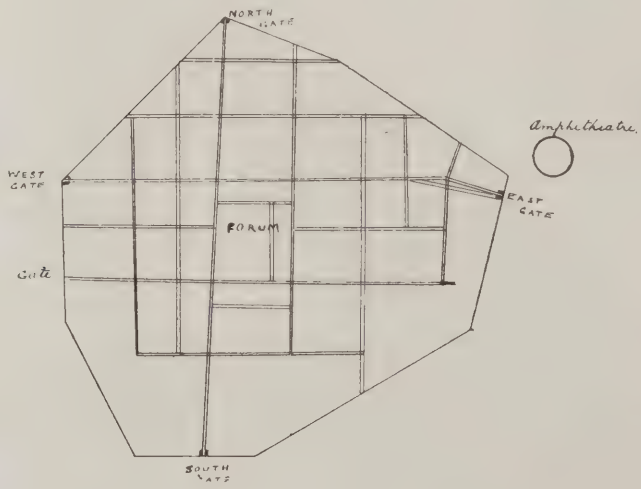
Roman Roads Outside of Towns in England.

The Romans adopted a definite plan in laying out road which was to connect, say, two towns; it had f curves in it, but ran direct; and even where a curve exist it represented merely a number of straight li joined together. The British road was altogeth different. It curled in all directions, proceeding arou a hill, or winding over the downs, or following the line a river or stream. There was, in fact, little plan in and if any portion of it was straight it was so by accide

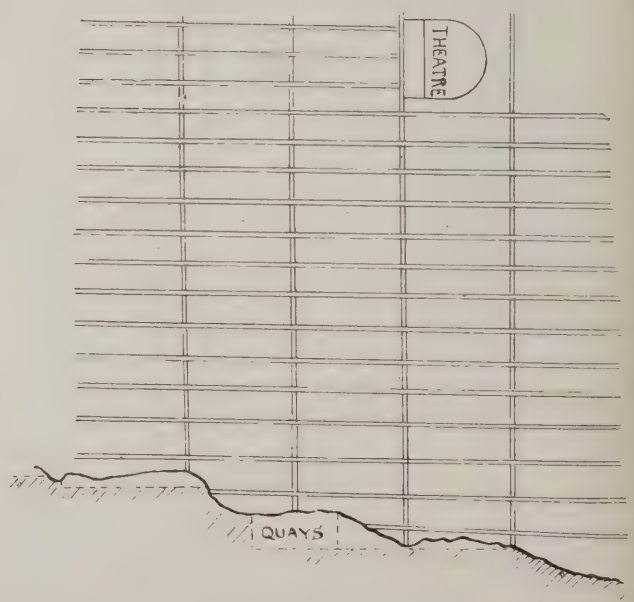
There is much to be said in favour of both metho but the main argument is that a "straight" ro between two towns is to be recommended in virtue of being the shortest distance, and therefore the quick route; also, it is usually the least expensive to make. "curved" road is usually more costly, but it breaks t monotony in travelling over it, and is a more pleasi feature of the countryside. Fig. 1 represents in dott lines a Roman road between two towns, a Brit curved road being indicated by a firm heavy black line

Road Planning in Ancient Towns.

The earliest road-makers were probably the Ca thaginians, who constructed and maintained a gener system of roads. In the towns these were planned the rectangular-block system. This is well illustrat in Fig. 3, which represents a road-plan of a portion the town of Carthage. The history of this ancient tow of Nor h Africa, which was a rival of the Roman Empir fal s into three periods—the first from 880 B.C. for abo 400 years. During this period Carthaginia consolidate her African empire; the second from 480 to 264 B.C the third period from 264 B.C. to 146 B.C. During th last period she waged her life-and-death struggle wit Rome for the domination of the seas, and so of the worl Her power was destroyed by Scipio in 146 B.C., and sh



2. SILCHESTER ROAD PLAN.



3. CARTHAGE ROAD PLAN.

This clock, from the Wallace Collection, reveals the art of French metal work at its zenith. The wings of the sphinxes are conventionally treated to form supports to the circular clock, and constitute the chief motif in the design.

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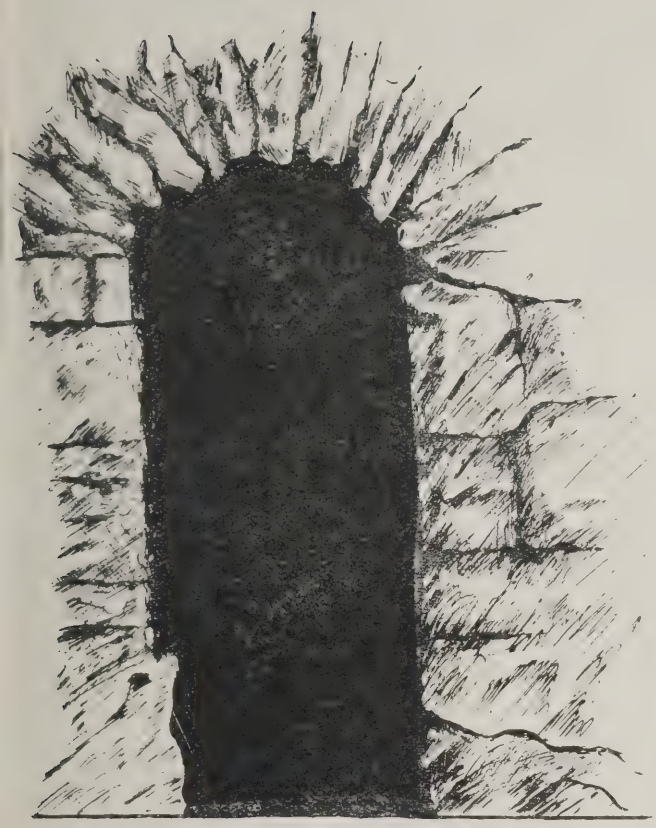


4. ROMAN SEWER, LINCOLN.

'as reduced to a province of the Roman Empire. 'he French archæologists, who have for years been 'orking in this city, have suggested that it had about ›rty streets, the town having a frontage to the sea of ›out two miles and a depth of about a mile.

The Romans realised the advantage from a military oint of view of having well-planned and well-conructed roads, and so we find them copying the methods f the Carthaginians, and road construction was taken eriously in hand by them. It is said that they conructed in Great Britain 2,500 miles of roads.

Roman Roads in England.

Generally speaking, the Roman towns were laid out n the rectangular or modified chess-board pattern. ilchester is a good example of this, the sketch-plan 'ig. 2) illustrating the lay-out of the roads in this town. he city of Lincoln (the Roman Lindum) is similar in iat it has a gate on the east, the west, the north, and the ›uth sides of the city, and straight main roads ran ırough the city to and from these. This town was stablished as a "Roman colonia" about A.D. 75. The xcavations carried out in 1890-1909 were very valuable, r they enable us to know more of this town than of any her Roman site in the western provinces. For accounts f the Silchester excavations see "Archæologia," vols. .-lxii., and "Victoria History of Hampshire," i., 271, ;0; large scale plan by W. H. St. John Hope in Archæologia," lxi.

Fig. 4 is a sketch of a Roman sewer which runs under e Bailgate at Lincoln. The site of the original city as nearly square, and included within its walls the astle and Cathedral. Silchester was a Roman-British ›untry town, and before the Romans arrived in this ›untry it was probably a tribal centre. Its area was ›out 100 acres, and a heavy wall surrounded the city. ost of the streets ran at right angles to one another, id its buildings included the Amphitheatre, a forum, id basilica, public baths, four small temples, a Christian iurch, an hotel, and a large number of private houses.

Miscellaneous Memoranda.

The city of Memphis is supposed to have had a broad ıved roadway leading from it to the pyramids two ıgues long, lined on both sides with temples, monuments, statues, etc. It is said that a thousand years before Columbus discovered the New World the City of Genoa boasted of fine roads and streets.

About 1556 a stone-paved road was constructed from Paris to Orleans. The full width of the road was 54 ft., but the paved portion 15 ft. only.

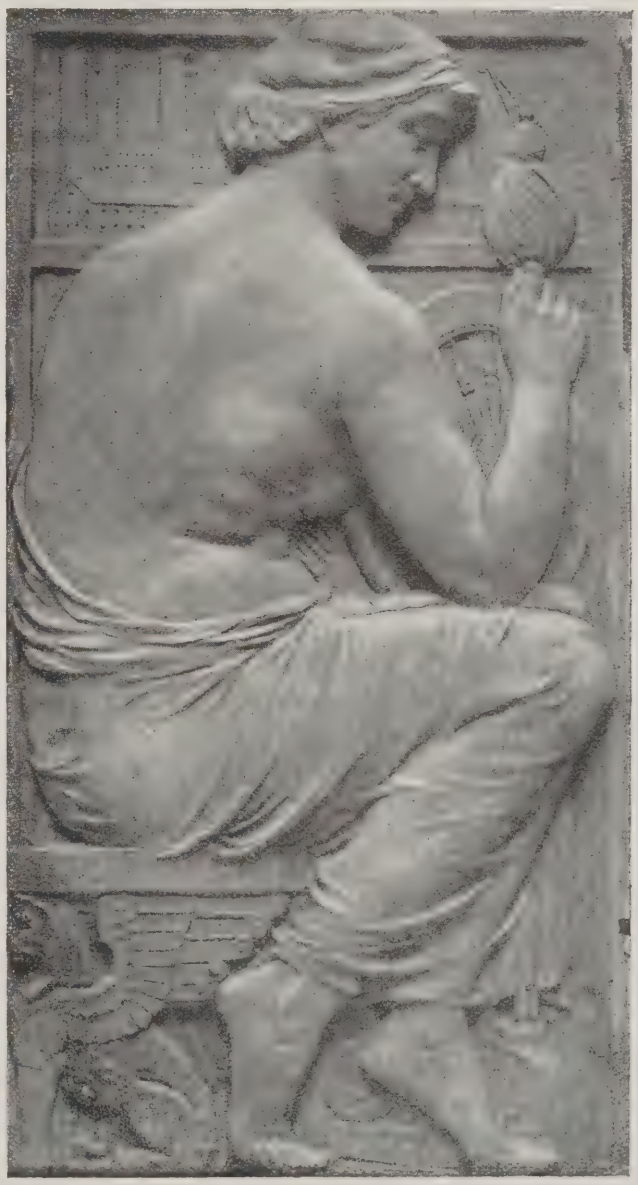
The first Highway Act for the improvement of roads in England was passed in 1555.

The streets of Rome were paved in the fourth and fifth centuries after the founding of the city.

The Strand, London, was ordered by Parliament to be paved in the fourteenth century. Holborn had some pavements in 1417. Granite blocks were introduced by Parliament for Westminster in 1761. Concrete appears to have first been used in London as a foundation for paved roads in 1872.

Granite blocks were first laid in Liverpool in 1871, and wood paving in 1873. In Glasgow granite blocks and wood block paving were used in 1841.

In the planning of Edinburgh, Craig in 1767 ("Early Examples of Town Planning in the City of Edinburgh," by A. H. Campbell, M.Inst.C.E., City Engineer. Paper read before Institution of Municipal and County Engineers, 1913), Craig, Reid, and Sibbald in 1806; and in 1819 Playfair, Crichton, Milne and Bell, Nasmyth, and Reid, all illustrate possible road-planning schemes, some of which are excellent.



"INDUSTRY." L. F. ROSLYN, R.B.S., SCULPTOR.

The above figure is one of four decorating the facade of Victory House, Cockspur Street, recently completed from the designs of Messrs. Metcalf and Greig, Architects.

The Citizen and the City

By HALSEY RICARDO, F.R.I.B.A.

"CITIZENSHIP" was the subject of the paper read by Mr. Halsey Ricardo, F.R.I.B.A., at the last gentral meeting of the R.I.B.A. To read a paper on the duties and responsibilities of citizens to a body like the Institute was attempting to preach to the converted, said Mr. Ricardo. Architects were pre-eminently civic missionaries, and it was well occasionally to take stock of propaganda work and consider how far fresh effort was requisite, and in what direction. So many theories, formulæ, and principles were being tested from fresh angles of vision and from new criteria as to their tendency. One supremely pregnant point of view was the constitution of the State and the position of the individual in regard to it. We had come to think much more of collective duties: to feel that each individual was no more, and no less, a contributory cell in the structure of the commonwealth. At this moment, however, there was an ideal —almost world-wide—which all the nations were girding themselves towards, an ideal which involved the sympathetic co-operation of every individual to do his utmost for the general welfare. The first thing to do was to teach youth how much there was for him to be proud of, and to do this effectively they must themselves realise the value of the possessions inherited. As far as poetry, literature, and science were concerned, architects could co-operate according to ability, but in the matter of the arts and handicrafts it was incumbent urgently to see that the education given was well directed, and to secure a general concensus as to this direction. If the citizen was to be proud of his city he must know why. He should know something as to the disposition of the city he inhabited. If the city is London he should have a clear knowledge of the course of the Thames through the city; how many bridges cross it on its way; what their direction and what their main function; then the principal arteries or traffic; the main objects of historical interest; and this should be followed by explanations, how the roads and monuments came about, starting from the time of Edward the Confessor to the time of George V. From such stepping-stones he might get to observe the terrible disorder in the streets, and wonder whether such litter was really inevitable. We had allowed it to become prevalent out of sheer laziness, shirking our obvious duty.

Why should the out-of-doors be so different to the indoors? The careless disregard of what was due not only to oneself but to one's neighbour had had the evil consequence of permitting two standards. Take "offices" in the streets for illustration. Behind the imposing façade were the working cells, inhuman in their baldness, ghastly in their lighting, dreary, savage in their neglect to provide anything that the eye could comfortably rest on. Buildings, commercial as well as domestic, were the index, at any period, of our mode of living and our outlook on life. Architecture reflected in the most sensitive way the ideals in vogue at the time of construction, and its testimony was beyond question. Buildings embodied the aims of the community in the town halls, museums, libraries, council schools, and the like; the big mercantile companies, the railway shareholders, and the individual; and were flagrantly illustrative of these aims at a glance. The buildings frankly disclosed the sentiments of their founders, and their character revealed the standard of taste and craftsmanship available.

Some years ago the London County Council, conscious of the discordant result of individual architectural display, tried to formulate a scheme for the buildings on either side of Kingsway. Individualism wrecked it. It may be that uniformity was there carried to the breaking-point, and in the absence of any civic pride the financial aspect was allowed to settle the matter. Even Mr. Norman Shaw's scheme for the Quadrant and Piccadilly was defeated because there was no public opinion strong enough to override individual interests. It was that public opinion that must be educated, strengthened, and spurred to action.

The ideal of the perfect citizen involved the co-operation of every member of the State towards realising ever some measure of this ideal; and the means to be employed must, some of them at least, be within the grasp of the least of these members and within their willing acceptance. Whilst the ideal itself must be lofty—noble beyond question—the ascent must be by easy steps. Much would have been achieved when they had cleared the city of unsightly and dirty obstructions; the squalor of railway stations, the careless arrangements and noisy shunting of trains, the ill-placed goods yards, the untidy coal humps, the gratuitous noises in streets, cars hooting, chains rattling, chimneys prodigally smoking; the atmosphere, from selfish or ignorant contempt of science and management, corroding buildings, books, and furniture. "Have nothing in your house that you do not know to be useful or believe to be beautiful" is an aphorism of William Morris's that goes to the root of things. It was incumbent on the good citizen to be careful of his expenditure, to see that his money goes to the employment of serviceable labour.

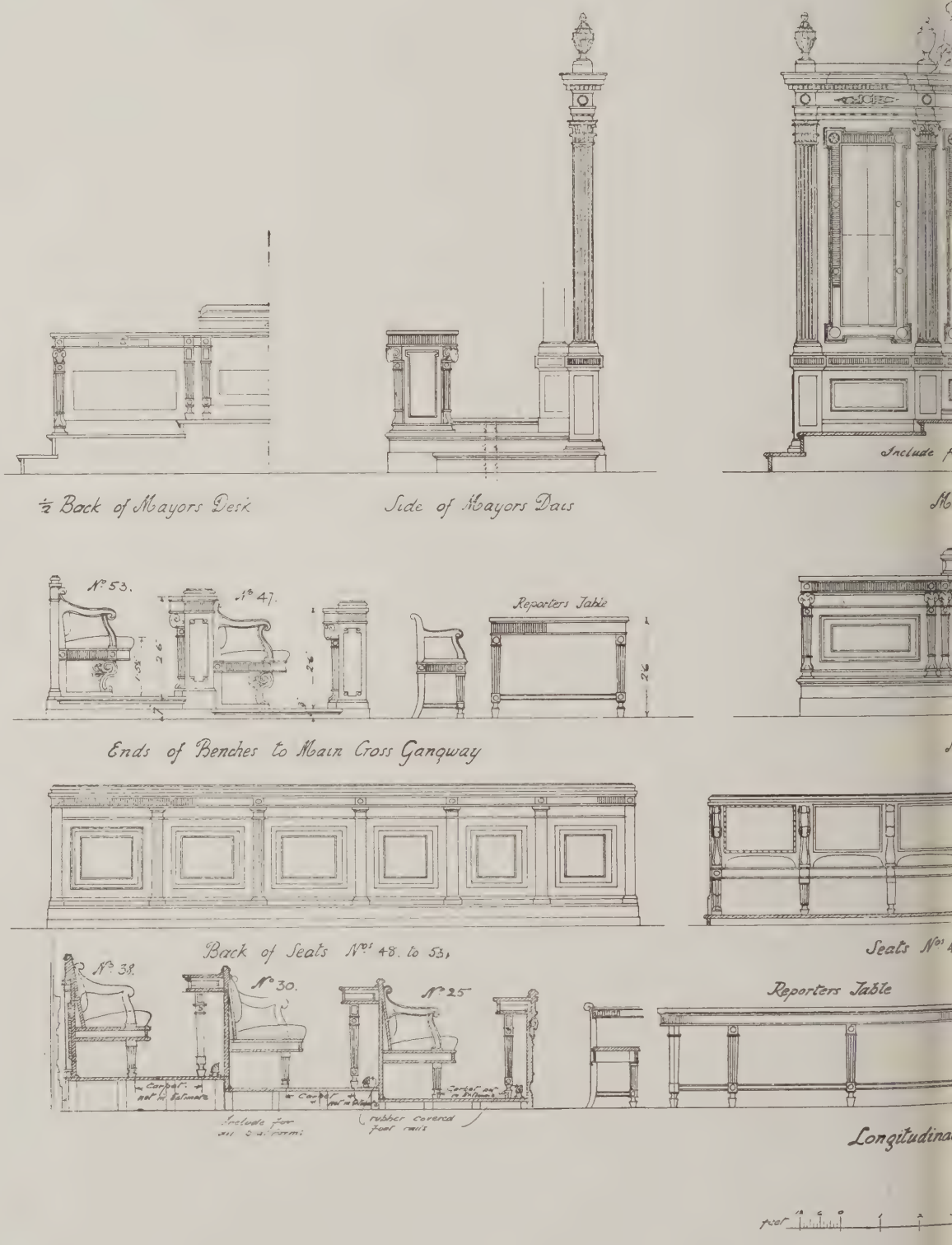
Architects and craftsmen know the value of the things they produce, and what should be their treatment. But the public in general had not this knowledge, and had not been taught to acquire it, and the teaching of the care and responsibility in spending was of first importance. Apart from the producer's side of the question, there was the home side. If all houses were cleared of the rubbish within their walls, the mere saving in the labour of dusting and cleaning would be enormous.

As regards building, a new type of architectural literature and criticism was wanted. Architecture should be a developing structural art, mainly concerned with the building and improvement of cities, and the provision of the structures needed in civilisation. Literary pundits seem incapable of realising that architecture was a living art, and measure their admiration of any fresh work by its approximation to masterpieces of the past times, raised under entirely different conditions for entirely different purposes. Architecture, like all other living things, was progressive—responsive to the progress of the age, to the scientific discoveries of materials and method, and criticism of modern architecture should be impregnated with this knowledge if it is to discuss the subject to any purpose. The study of architecture was to be approached in a scientific and practical rather than in an archæological spirit. Study of old work was essential, since old work was the embodiment and outcome of a long train of experiment and experience; one had not only to analyse the methods of construction, the choice of materials, but one must master also the social conditions of the time, since these had a vital bearing on the building. The Institute should become a centre for recording experience and suggesting ideas. There was an immense field awaiting development; the solution of the problems of the railway station, the shop, even the furniture of the street. Novelty baffled the ordinary reviewer; it was generally the prudent thing to express dislike; the odds were probably against its being excellent—so many things had been incautiously praised by the more gushing prints that one had to walk warily. The lay public was not indifferent; it was out for being instructed; it asked for principles to walk by; in the matter of "taste" it was self-deprecatory; it did not know what it liked, though it sometimes sought for that illusion. It was idle to call upon the citizens for pride in their city if they were not agreed as to what should justify that emotion. Such negative attitude was wantonly preposterous. A city like London, of unparalleled size and magnificence—the scene of so much history—not to be proud of it!

If they allowed themselves to admit their pride it would mean also that they cared for the state of the city; they recognised themselves as the inheritors of this magnificent dowry and the guardians of it for posterity; to leave it somewhat better than when they received it; to impart to it some added touches of noble feeling. With this recognition should come the determination to abolish the relics of neglect. Living cities must grow and change as they grow; new forces come upon the scene, new standards of living and of trade, new conceptions of time and distance. The expansion of a city was a matter of supreme importance—a matter of statesmanship, of forethought; a matter also for those that were to come after. Extensions had to be conceived on fine lines as well as practical; without imagination, without inspiration, labour was worse than in vain. Posterity would sigh over the opportunities we failed to recognise—would deplore the poverty of spirit in our projects, the hand-to-mouth policy that had made subsequent improvement well-nigh impossible. The real worth and magnificence of our cities should be recognised, and they should be determined to support claims for their worth without fear and without reproach. It was a common failing to deprecate sentiment, but sentiment was the mainspring of life. It was not fantastic to descry a great wave of communal feeling at the present moment, the gift of the Great War, and it was a privilege to enforce it, to guide it, to see that it was not allowed to ebb from want of recognition and encouragement.

Council Chamber Fittings and F

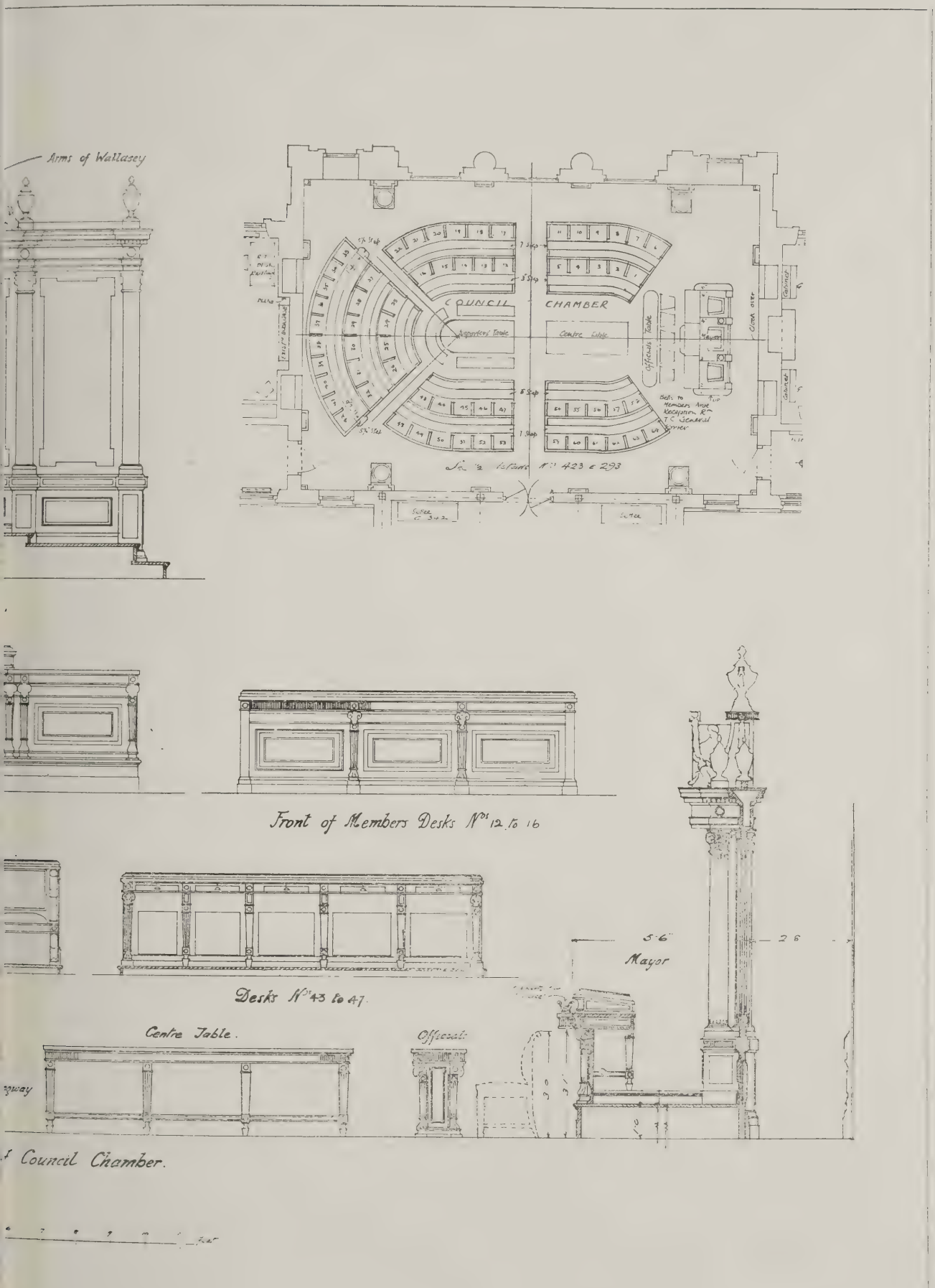
Briggs, Wolstenholme, an



The Council Chamber of Wallasey Town Hall is situated on the first floor of
It is a fine apartment, 50 ft. long by 34 ft. wide by 24 ft. high, and provides
well shown in the above drawing, have all been specially designed by the ar
Wallasey Town Hall was fully illus

e, Wallasey Town Hall, Cheshire

ely, FF.R.I.B.A., Architects.



nd occupies a central position on the frontage facing towards the River Mersey.
nodation for sixty councillors. The furniture and fittings, details of which are
r rarangement may be studied from the plan given in the top right-hand corner.
ribed in our issue for December 31, 1919.

Construction 4.—A Reinforced Concrete Water Tank

Earlier articles in this new series were as follows: "Some Reinforced Concrete Details," Jan. 7; "A Steel framed Shed for Seaplanes," Jan. 14; "Hollow Wall Tile Construction," Jan. 21.

TO associate architecture with tanks may seem at first glance slightly incongruous, and one imagines that Ruskin would have excluded both tanks and concrete from the category of things artistic. Yet the illustration accompanying this article may convince many that tanks, and even concrete, may and can have beauty—when architecturally treated.

The subject of tank or reservoir construction in reinforced concrete is an old one, and a great deal of study has been given to this class of work in the past with varying results. The situation of the structures has, of course, influenced their type, architecturally or ornamentally. Landscape engineers have had trouble in this class of design to obtain anything that would fit into a scheme of landscape improvement; and from an architectural point of view there is very little opportu-

A REINFORCED CONCRETE WATER TOWER ARCHITECTURALLY TREATED.
AUGUST GEIGER, ARCHITECT. C. C. WHITAKER, ENGINEER.

nity for fine effect in a cylindrical tank or reservoir; this at least has been the case in the past.

The accompanying reproductions will give an idea of what has been accomplished by Mr. August Geiger, architect, and Mr John B. Orr, plaster contractor, both of Miami, Florida, for the Carl Fisher Estates at Alton Beach, Florida.

It is hardly necessary to call the attention of the reader to the uncertainty that exists in the construction of tanks or reservoirs with regard to waterproofing. To overcome the uncertainty in this part of the work the interior barrel of the tank was laid out in curved hy-rib, which was placed from the base up to nearly the offset line of the different thicknesses of the tank, and which ultimately acted as the interior forms of the tank.

This barrel was built in three courses of waterproofed cement stucco, the barrel being treated as separate and distinct from the structural walls of the tank, and reinforced not only with the hy-rib in the horizontal direction, but vertically with temperature rods against any possible expansion or contraction. This permitted the carrying up of the waterproofing in the floor of the tank in a positive unbroken line from the bottom to the top, as each course of stucco or plaster work was laid in a manner to prevent there being a lap or joint coming over the same point in any two courses. In other words, at no place on the inner surface of the tank are there less than two unbroken courses in thickness of cement waterproofed stucco. The gauge of the reinforcement was varied from 22 to 26, using 22 at the bottom, then 24 and 26 at the top.

The exterior or carrying surface of the tank has no particularly interesting feature, as standard practice was followed in this part of the design, that is, it was reinforced against the water pressure. The lower or carrying standard of the tank consists of reinforced-concrete columns 20 in. square on the outside and 18 in. in the interior, battered to give additional stiffness; likewise the base was designed to resist the overturning moment due to a wind pressure of 30 lb. per sq. ft. on the structure.

The enclosure walls, from ground level to under tank, are curtain walls carried by spandrel beams, and are built of 4-in. hard-burned terra-cotta tile. The roofs of both these tanks are of hy-rib with cement stucco waterproofed.

The ornamental features of the tank have been arrived at by utilising to a large extent drawn work in the way of moulds and resorting to the old-time stuck work. The ribs or panels formed by the vertical lines on the tank proper are made by a simple run or stuck mould.

Some data regarding pumping may be of interest. The well feeding the tank is outside the building proper, and is a gusher of some little head of water, though of not sufficient head to rise of its own pressure to the tank. The actual main or outlet pressure is obtained from the head of water in the tank, but it was found necessary to instal a pump for the feed of the tank. This pump is in the foundation proper of the tank in a sand bed; in fact, there is about a 2 ft. fill of sand over the concrete floor with the ordinary 4-in. concrete floor placed on the top of it. The foundations of the pump, however, run down to and are bedded into the main foundation of the tank supports.

Rents of Housing Schemes

The Ministry of Health have issued a series of revised regulations with regard to the housing schemes of local authorities. These include a number of amendments to previous regulations, and in regard to "Part I. and II. Schemes" it is announced that "the period during which reasonable progress must be made is extended from two to four years, and the period for completion of the scheme is extended from three to six years. In each case where the Minister has discretion to extend the period, he will have regard to the supplies of labour and material available from time to time, and all other local and general circumstances affecting the carrying into effect of the scheme." With reference to "Part III. Scheme" it is explained that "a discretion is given to the Minister to extend the period of one year, during which reasonable progress must be made."

To meet objections, the rules relating to the determination of rents have also been redrafted, and now read as follows:

1. The local authority, in first fixing the rents under an assisted scheme, shall have regard to:

(a) The rents obtaining in the locality for houses of the working classes;

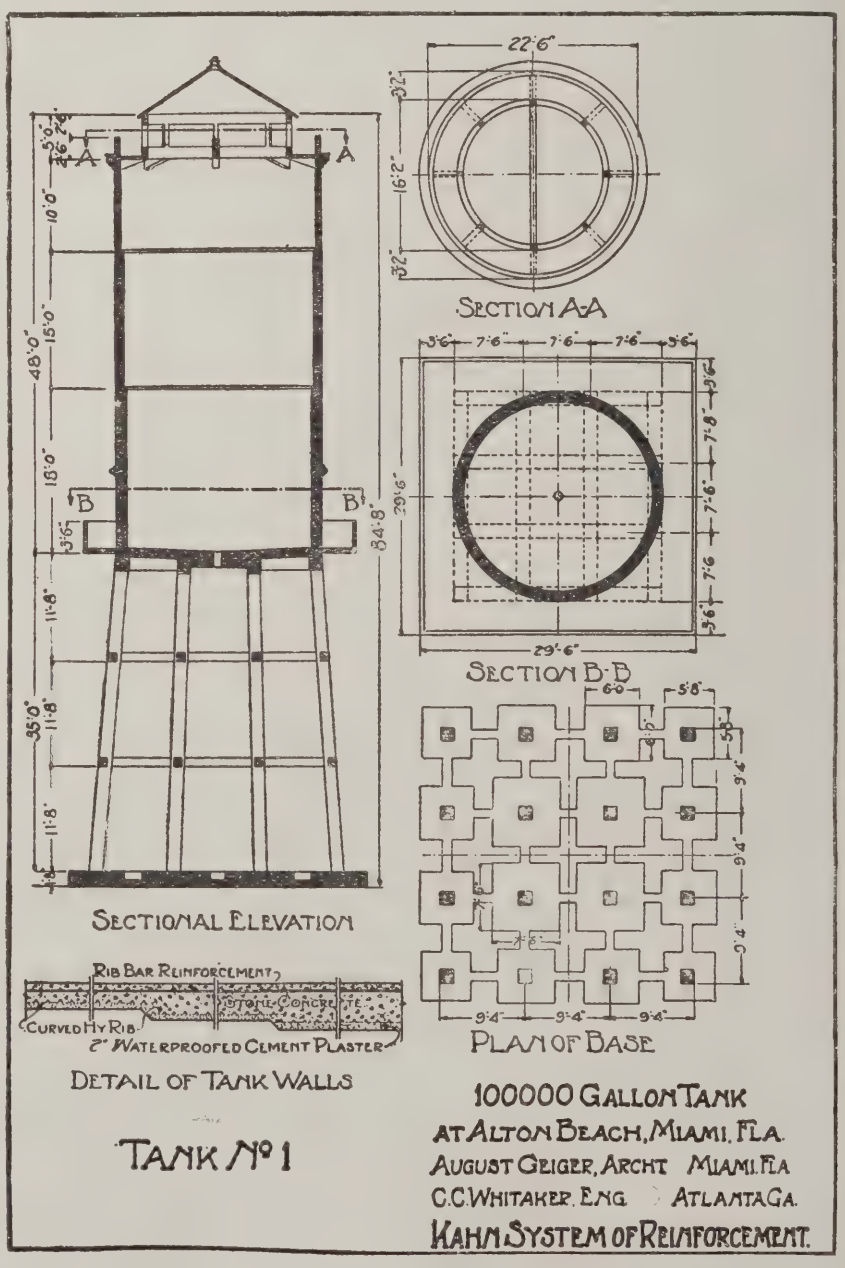
(b) Any increase in the rent of houses for the working classes authorised under the Increase of Rent and Mortgage Interest (War Restrictions) Act, 1915, and any Acts amending or extending that Act;

(c) Any superiority in the condition or amenity of the houses to be let by them under the assisted scheme or in the accommodation provided therein; and

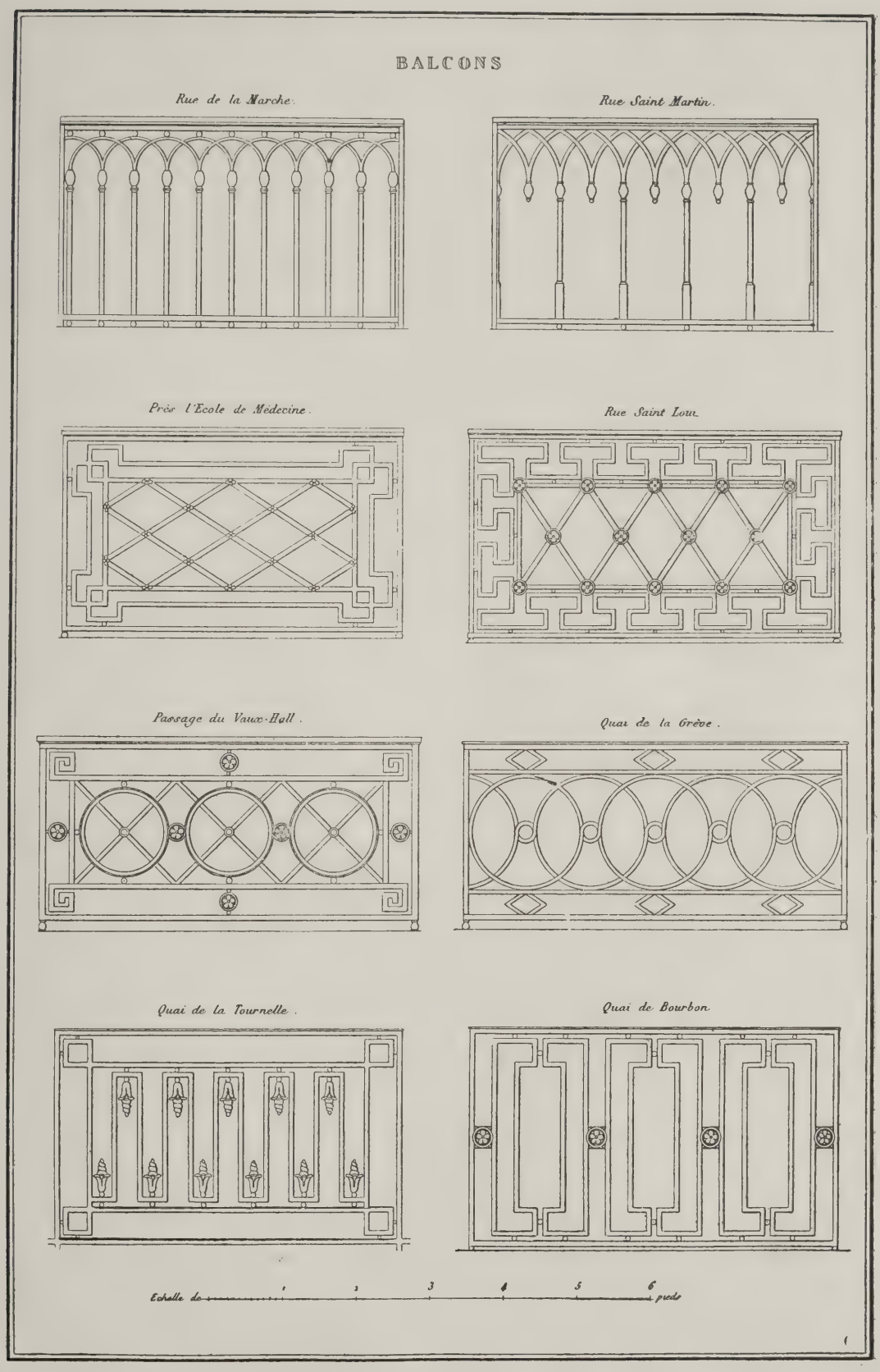
(d) The classes of tenant in the district for whom the houses are provided.

2. The rent to be charged after March 31, 1927, shall, if reasonably possible, having regard to the conditions then prevailing and to the classes of tenant in the district for whom the houses were provided, be sufficient to cover (in addition to the expenses of maintenance and management of the houses and a suitable allowance for depreciation) the interest which would have been payable on the capital cost of building the houses if they had been built after that date.

3. If it is not found reasonably possible after March 31, 1927, to obtain the rent prescribed by Rule 2, the rent shall be the best rent which can reasonably be obtained from the classes of tenant in the district for whom the houses were provided, regard being had to any superiority of such houses in accommodation, construction, etc.



Some Paris Balcony Railings



Bury's drawings of ironwork cover the period of the matured French Renaissance. The eight designs given above vary from trellis interlacings to guilloche and Greek key patternings, from actual examples in Paris.

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The State and the Home*

By Sir GEORGE McCRAE, D.S.O., Vice-President of the Scottish Board of Health

FROM the purely economical standpoint, there can be no doubt that the 1909 Budget—not so much, perhaps by what its provisions actually entailed, as from what was feared as the result of their operation—caused a scare in the building trade. But the true student of economics goes deeper into the matter, and he finds that the decrease in building operations was not confined to this country. Germany, at that time in the very hey-day of prosperity, was faced with the same problem. For thirty-seven towns in Germany, the number of houses erected in 1912 was 8,912, containing 61,225 dwellings. In 1913 the number of houses erected fell to 7,017, and the number of dwellings to 45,220. In 1914 the number of houses erected was only 5,667, and the number of dwellings 32,300, showing that the number of dwellings provided fell in two years from 61,335 to 32,300, a little more than half of these provided in 1912, so that the downward trend of housebuilding in Germany was very much the same as in this country. One question may be asked of those competent to give an answer: Was housebuilding being carried on in this country on sound business lines? I doubt it. The speculative element was far too prevalent. In 1913 only some 2,491 houses were built in Scotland as compared with 12,933 in 1905. In England the figures were 45,632 in 1913, as compared with 99,905 in 1905. The similarity of these figures with those of Germany is significant.

If we keep in view that perhaps no two countries were more industrially alike than Britain and Germany, this should give us food for thought. Was there something fundamentally wrong as regards house-building in the economic conditions appertaining thereto in both countries? Were the wages earned by the workers sufficient to pay for an economic house? Or was there something lacking in the ideal standard of comfort on the part of the working classes and to the price they were willing to pay for suitable accommodation? These problems will have to be faced in the period of reconstruction on which we have entered. Whatever expedients may have, under stress, to be adopted to meet an altogether unprecedented and tragic shortage of house accommodation, a stabilised economic position must be the goal of our endeavour.

Apart from 3,000 houses erected under the supervision of the Local Government Board for Scotland for munition workers and Admiralty employees, and the similar provision made in England, house-building was at a complete standstill during the war. The present conditions of housing in Scotland—clamant, heartrending, and intolerable—we all know and deplore. The shortage of houses is not merely a British problem. It is a world problem, as a glance at the housing conditions in other countries will show.

Germany.

The estimate of shortage has been put at 800,000, but, from facts obtainable, I should say that is an underestimate of the scarcity. In Greater Berlin alone, it is stated that from 40,000 to 60,000 new dwellings are required. In Munich the Director of the Housing Office stated that applications for houses to the number of 7,917 had been made at the local house registration office, the total number of empty houses available being only twenty-three.

To meet the situation, the Reichstag in May, 1918, voted a sum of £25,000,000 for housing purposes on condition that the States and municipalities respectively provided an equal amount. This proposal was received with great dissatisfaction by the local authorities, and a petition was presented to the Imperial Government by the Central Committee of the Association of German Municipalities pointing out that the financial position of the towns rendered it impossible for them to take any important share in the provision of capital. It was maintained that the question of meeting the increased cost of building was not a municipal, but an Imperial concern.

France.

France has her own sad problem. Her towns and villages have been laid waste, and her task of restoration is a stupendous one. Plans have been completed for 200 devastated towns and villages out of a total which is estimated at 2,000. The uncertainty in prices of labour and material, and the fierce competition for the small stocks available has considerably delayed progress. Apart from the towns and villages devastated by war, there is a housing crisis in France attributable to the fact that, long before the war, the provision of dwellings was not keeping pace with the needs of the increasing population. If we take Paris as an example, we find that the total number of empty dwellings was 42,571 in 1899 and only 9,047 in 1914. The empty dwellings under £20 rental was for 1899 16,345, and for 1914 only 2,195.

The French Government has prepared a Bill for the encouragement of building by increasing the financial resources at the disposal of the public offices and public utility and other societies formed for the purpose of erecting cheap dwellings. The State may make advances to public utility societies of £8,000,000. The maximum amount to be loaned to the deposit banks for grants to public authorities and societies for providing cheap dwellings has been fixed at £12,000,000. A total, therefore, of £20,000,000 can be made available for the erection of houses. These advances are to be made at a reduced rate of interest of 2 or 2¼ per cent.

Italy.

In Italy also the shortage is very great and the building operations are expected to cost about £10,000,000. In the northern towns building operations are being carried out by co-operative societies and building clubs. In order to facilitate the building of workmen's dwellings in Rome, the Government has empowered the Treasury to advance State loans to building societies to the amount of £1,600,000. These loans are guaranteed by the State.

The Italian Government has passed legislation to the effect that houses built before April, 1924, will be exempt from building and super-taxes for six years, and for four years after the builders will be required to pay half only of such taxes. If built before the end of 1921, these houses will be exempt from all taxes and super-taxes for the succeeding ten years.

Switzerland.

Acute shortage has been caused at Wimmis by the erection of a powder factory and consequent industrial influx into the town in 1917, and the Federal Government is considering the granting of a loan to the local authority for the erection of workmen's dwellings. In order to pay interest of 0½ per cent. the rentals would require to be £100 per dwelling. A grant from the State is therefore considered absolutely essential. At Berne a three-roomed flat only brings in a rent of £36, while the interest on the capital and charges for the upkeep of the building require twice or two and a half times that amount.

The Swiss Government has passed a credit vote of £400,000 to be allotted to local authorities in whose district the shortage is most urgent. One streak of sunshine enlightens the gloom at Zurich where the position is fairly satisfactory, because the municipal authorities have for the past ten years been carrying on a considered housing policy and have expended about £1,000,000 on their housing schemes.

Norway and Sweden.

The shortage of small dwellings in Norway is estimated at 1,800. The housing problem, is said to be a financial one, and there is great need for a well organised credit system in Norway. It is stated that the shortage of dwellings in Sweden has evoked clamorous demands for State intervention.

Holland.

A law has been passed by the Government dealing with measures to be adopted by the State and the local authorities. The State will advance 90 per cent. of the cost of buildings in the form of loans. In 1918 a sum of £1,250,000 was set aside for this purpose. The total shortage of houses in Holland has been estimated at 60,000. The need is very great in Amsterdam, where about 15,000 houses are required. A scheme has been prepared by which 10,000 houses are to be built by the Amsterdam municipal authority and 18,000 by the building societies.

United States.

In July, 1919, it is estimated that there was a shortage of over a million houses, the shortage being most acute in the industrial centres, where 46 per cent. of the population was concentrated before the war. The smaller towns are not immune from the shortage of houses. There are indications throughout the country that the difficulties can only be faced by State and local action. The United States Shipping Board Emergency Fleet Corporation has been dealing with one aspect of the housing question, and has expended out of Government appropriations some £14,000,000 in the construction of housing and supplemental facilities for shipyard workers. They have provided individual houses for 8,592 families, and apartments for 834 families. Further accommodation in the form of dormitories and hotels has been provided for 6,166 men. Other agencies were also employed, and the Federal

* Extracts from a lecture to the Edinburgh Architectural Association.

Government has expended approximately £22,000,000 in the housing of war workers.

Ex-Commissioner Murphy, Tenement House Department, New York City, is, however, of opinion that the housing shortage is sporadic and not universal, and that the only way which offers a practical solution of the housing problem is the removal of the taxation of buildings until such time as building has caught up with the normal demand. He states that suggestions have been made from responsible quarters that new buildings erected within the next two years should be exempt from taxation for seven or ten years, and that such a policy would greatly stimulate building. This is very interesting in view of the action already taken by the Italian Government on these lines.

Canada.

In Canada the Federal Government has decided to make a loan of five million pounds at 5 per cent. to the Provincial Government, repayable in twenty years, which may in certain circumstances be extended to thirty years in order (a) To promote the erection of dwelling-houses, and to relieve the congestion of population in cities and towns; (b) to give workmen, particularly returned soldiers, the opportunity of acquiring their own homes at the actual cost of building and land acquired at fair value; (c) to encourage town planning and housing schemes. Public money may be advanced for building houses on sites owned by public authorities, by public utility societies, and to owners of plots who intend to build for themselves. That the need is great in Canada is borne out by the report of the Royal Commission on Industrial Relations of June, 1919, who state that "another cause of unrest which is met with at practically every place we visited was the scarcity of houses and the poor quality of some which did exist."

Australia.

The Government has made a grant of £20,000,000, and out of this fund the Housing Commissioner is empowered to acquire private Crown lands upon which dwellings to the value of £700 each are to be erected. The Repatriation Department has prepared a scheme for the housing of returned soldiers and their dependants based on the War Service Homes Act, 1918. In South Australia, under the State scheme for providing houses for soldiers, soldiers' widows and mothers, 3,560 applications have been made for houses of which 1,570 have been approved, and an expenditure of £879,668 has been made for provision of houses in town and country. The financial work is carried on by the State Bank, while the technical work is entrusted to town-planners.

New South Wales.

There is a great shortage of houses in New South Wales, especially in Sydney and its suburbs, caused, it is stated, by the growth of population and the high cost of living.

New Zealand.

Wellington has been suffering for years from the failure of private enterprise to build rented dwelling-houses, and it is maintained that conditions have now reached the stage when the intervention of the State or Municipality is not only desirable but imperatively necessary in the interests of the health and well-being of the community. The Prime Minister, at the Legislative Council, informed the House that a Bill dealing with the housing question was before Parliament.

South Africa.

As a result of the house famine in Natal, the Imperial Government has appointed a Committee to consider the housing question and to report "whether it is advisable for the Government to give financial or other assistance to local authorities and others in providing housing accommodation in urban areas for persons of limited means, including coloured and native population." At Johannesburg in 1919 a meeting of citizens called upon Parliament to give immediate effect to the Housing Bill empowering municipalities to find means to proceed with housing schemes. The Government has passed an ordinance empowering the Town Council of Durban to borrow £200,000 to be used for building houses to be let by the municipalities.

India.

In a report by the Municipal Commission of Bombay, we find there is a shortage of 64,000 dwellings, and that the middle class was equally, if not more, adversely affected by the shortage of suitable dwellings.

State Intervention.

What are the deductions to be drawn from this world survey of the housing question? The first is that whatever the inherent causes may be, the result is the same in all civilised countries, namely, that in most countries, certainly in all European countries, there was a shortage of houses before the war. The result has proved that there has not been in the past sufficient inducement for private enterprise to build for all classes in the community. That the aggravation of the shortage owing to the war has produced a condition of affairs which can only be met by State intervention. However much we may dislike the conclusion, the facts fully demonstrate the truth of that proposition. In all countries a call has been made to the State to come to the rescue. The Governments of the respective countries have responded to the call. It should be noted that Governments have invariably acted through the instrumentality of the local authorities, and public utility societies.

There are 311 local authorities in Scotland, and of these 220 have sent in schemes. Even more striking is the fact that schemes already submitted represent a population of 4,150,000 out of a total population of 4,760,000 in Scotland. As a result of enquiries instigated by the Scottish Board of Health, the number of houses estimated by local authorities to be required in schemes submitted was 128,000, and these local authorities propose to erect 113,000 of that number. The rate of progress in providing additional houses is on the whole satisfactory, although far short of the necessities of the case. Land has been acquired. The ground has been surveyed. Lay-out plans have been adjusted. Schemes have been approved for 78,000 houses. Sites have been approved for 27,921 houses. House plans for 16,353 houses have been approved by the Scottish Board of Health. Tenders have been approved for the erection of 2,940 houses. Requisitions have already been made by local authorities for building materials for the erection of 7,000 houses. Without being unduly optimistic, we may look forward to having 10,000 additional houses erected and completed by the end of 1920. By the exercise of extra pressure on the part of local authorities, and the willing co-operation of labour, this number can be largely exceeded.

Society of Architects

The thirty-fifth annual general meeting of the Society of Architects has been held in London under the chairmanship of the President, Mr. Edwin J. Sadgrove. The minutes of the previous meeting were taken as read. The secretary announced ten nominations for membership, and one reinstatement by the Council of a former member. The ballot was then taken for the election of the following forty-three candidates for membership, and was declared to be unanimously in their favour: Messrs. Samuel William Ackroyd, Halifax; Joseph Addison, A.R.I.B.A., Turriff, N.B.; Harry Alderson, Skipton; George Alexander Allan, London; Victor Bain, Leeds; David Thomas Barclay, Sheffield; Wilfred Shirley Brookes, London; Walter Hammond, Buttrick, Scunthorpe; Patrick Callinan, F.S.I., London; George Capon, London; John Samuel Clutterbuck, London; Ernest Stone Collins, London; Isaac Cooke, London; Jervis Crabtree, Blackpool; William Dent, Sunderland; William Henry Dongworth, London; Arthur Eaton, Derby; Stanley Empsall, Grimsby; Thomas Cwmanne Evans, Leigh-on-Sea; David Reginald Gray, Dudley; Thomas Archibald Gray, Bury St. Edmunds; Raymond R. Hammond, St. Helens; Leonard Cowtan Hatton, Ashtead; Lionel Clifford Hirst, Morley; Alfred William Hoare, Coventry; William John Laker, London; Sidney Albert Lister, London; Herbert William Maguire, London; Ralph Walter Merchant, Hoddesdon; Charles Redford Merrison, London; Charles John Moore, Enniskillen; Andrew Mackintosh Peart, London; Joseph Perkins, Northampton; Claude Redgrave, Coventry; Thomas Taliesin Rees, J.P., F.R.I.B.A., F.S.I., Liverpool; Edward Thomas Rossiter, London; Vivian George Saunders, Yeovil; Henry Tanner, F.R.I.B.A., London; Harry Tansley, Leigh-on-Sea; Edmund Frazer Tomlins, London; Herbert Tomlins, Bournemouth; Edward Joshua Watson, Newcastle-on-Tyne; and George Frederick Webb, Dudley.

The annual report and balance-sheet of the Council for the year ended October 31, 1919, was then presented to the meeting. The report, a resumé of which was published in the last issue of THE ARCHITECTS' JOURNAL, showed an increase in membership of 120, in graduateship of six, and a slight decrease in studentship, due to the war. Over 450 members have been on active service. The total number of honours and awards bestowed upon members of the Society for military service was sixty-six.

Mr. Pitt, of Bolton, Pitt and Breden, auditors, complimented the Society on its balance-sheet, which showed a surplus of assets over liabilities of over £5,000, and there were no charges on the securities or other property of the Society. He considered the balance-sheet to be satisfactory in every way.

The adoption of the report and balance-sheet was moved by Mr. Hammond (member) and seconded by Mr. Trotman (member), and was carried unanimously.

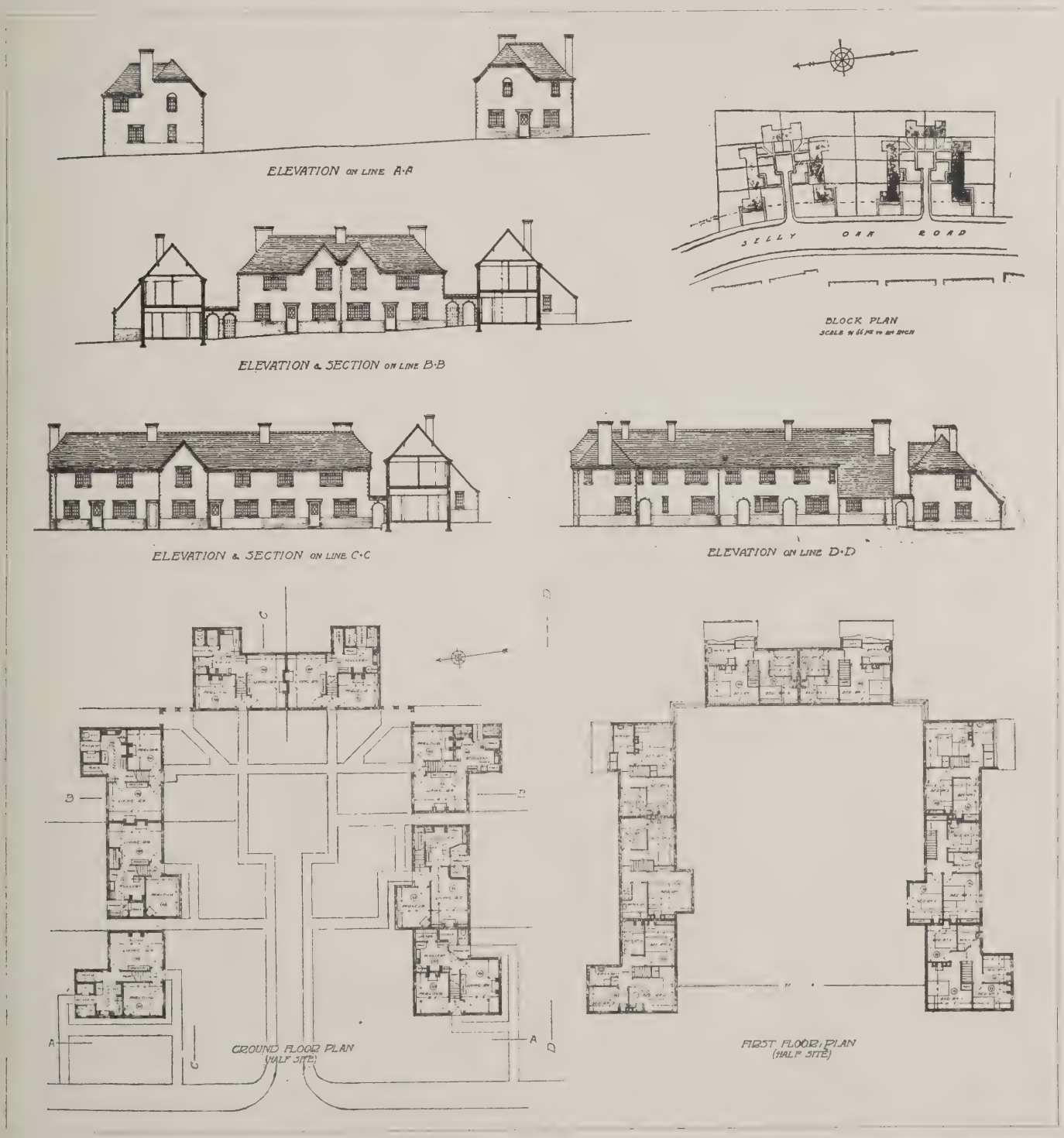
On the motion of the president, a hearty vote of thanks was accorded to the secretary and staff for their work during the past year. Mr. McArthur Butler replied on behalf of the staff. Messrs. Bolton, Pitt and Breden were then re-elected auditors for the ensuing year. This concluded the business of the meeting, which was followed by a lantern lecture by Mr. Harvey Piper (hon. member) on "Amiens Cathedral."

Birmingham Housing Competition

THE illustrations show the first premiated design, submitted by Messrs. Ingall, Bridgwater and Porter, architects, in the housing competition held by the City of Birmingham in connection with the Selly Oak Road site. The general lay-out has been planned to suit the existing levels of the site in order to avoid unnecessary expense in levelling and in deep foundations, whilst at the same time securing all the requirements of modern housing, and in particular the maximum amount of sunlight in the rooms. The houses are grouped round three sides of two squares, each with a short drive and turning space. The four houses with four bedrooms occupy the most prominent position at the ends of the blocks and nearest to the road, and each house has a good and sufficient garden both front and back.

Twelve of the houses have three bedrooms and four houses have four bedrooms. Twelve of the living rooms have windows facing south, and the other four have each two windows facing east and west respectively. In all, fourteen of the living rooms have two windows giving cross ventilation. The sculleries are fitted with range, gas cooker, copper, sink, and draining board, and table, with a space to accommodate a mangle. In two of the houses the copper and mangle are in the covered way. Storage room for perambulators or cycles is provided under the stairs. Oversight of the garden is obtained from the living room and scullery windows. All larders have windows facing north, except two, which face east. In every house the principal bedroom contains not less than 160 sq. ft. of floor area. In eight of the houses considerable economy has been achieved by reducing the area of the first floor, whilst still providing the necessary bedroom accommodation.

The walls of the houses are to be built of bricks, the general facings being in local red facing bricks, with Black Country facing bricks to plinth, quoins, oversailing to eaves and chimney heads.



BIRMINGHAM HOUSING COMPETITION (SELLY OAK ROAD SITE): FIRST PREMIATED DESIGNS.
INGALL, BRIDGWATER, AND PORTER, ARCHITECTS.

Internal walls are 4½ in. thick, with breeze concrete slab partitions between the first floor rooms, where the walls do not rest over ground-floor walls. The roof will be of deal purlins and rafters, covered with sand-faced tiles; and the floors to living rooms, parlours and bedrooms, etc., of deal joists and boarding. Sculleries, larders, w.c's, and covered ways will have 9 in. red quarry floors, and coal places blue brick floors. All the joiner's work and fittings are standardised throughout. The total cubical contents of the sixteen houses measured from bottom of footings to half way up roof, and including all chimneys above roof line is 222,970 c. ft., which equals an average of 13,935 c. ft. per house.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended January 17 numbered 170. The total number of schemes submitted by local authorities and public utility societies is now 8,122, comprising about 59,000 acres. The schemes approved now number 3,746, and comprise about 32,750 acres. Seventy-six lay-out schemes were submitted and eighty-three approved during the week, making the total number of lay-outs submitted 2,253 and the number approved 1,532. House plans representing 2,849 houses were submitted during the week and plans for 3,642 houses approved. The total number of houses represented in all the plans now submitted is 90,883, and in the plans approved 75,191. Tenders for 24,334 houses have been submitted, and approval given to tenders for 20,983.

The Housing, Town Planning, etc., Act, 1919, gives to local authorities the power to buy or lease houses built, or intended to be built, by private builders. This power was given primarily to enable the local authorities to take advantage of cases in which builders had land in their possession already partially developed. Several schemes have been submitted to the Ministry under this provision.

Details of the schemes of local authorities dealt with during the week are as follows:

Building Sites.

Schemes Submitted.—The number received from sixty-one local authorities was 166, comprising 365 acres, and bringing the total number of schemes promoted by local authorities to 8,024, covering approximately 56,350 acres.

Schemes Approved.—The number of schemes approved was 177, bringing the total number approved to 3,710, comprising about 32,000 acres.

Lay-outs.

Schemes Submitted. — Seventy-four schemes were submitted by forty-six local authorities, bringing the total number of schemes submitted to 2,202.

Schemes Approved. — Eighty - one schemes, promoted by fifty-four local authorities, were approved, bringing the total number of schemes approved to 1,497.

House Plans.

Schemes Submitted.—Schemes representing some 2,650 houses were submitted by forty-six local authorities. The total number of schemes submitted represents about 88,000 houses.

Schemes Approved.—Schemes representing upwards of 3,600 houses were approved. The total number of schemes approved represents 73,547 houses.

The Building Trades Exhibition

After a war-time interval of seven years the Building Trades Exhibition will make a welcome reappearance at Olympia this year. Never before has there been such a rush for space. Booking was opened in April of last year, and all space was disposed of by June. Since that time two hundred enquiries have been received, and a small proportion of belated applicants have been accommodated with difficulty. Two Olympias could have been filled with ease, said Mr. Hugh C. Montgomery, in the course of a chat with a representative of this journal. A feature of the forthcoming exhibition will be its enormous stands, several firms having taken double their pre-war space.

The exhibition will be opened by Dr. Addison on April 10, and it will remain open for a fortnight—from 11 a.m. to 9 p.m. daily. The Ministry of Health will be officially represented.

It is expected that the King and Queen will visit the exhibition. Their Majesties, when Prince and Princess of Wales, were invariably keenly interested visitors. There will be the usual official visits from the various professional and trade societies and institutions.

The important point about the Exhibition is that it is not a mere pleasure show: it is a highly technical exhibition promoted for the definite purpose of business. It has been running now for thirty-five years (originally it was held at the Agricultural Hall) and has been for a period of twenty-five years under the management of the present promoters, Messrs. H. Greville and Hugh C. Montgomery.

Judging by the present auguries, the forthcoming exhibition, which will be dealt with very fully in special issues of this Journal, bids fair to surpass all its forerunners as a business success. Arrangements have been made to hold the exhibition in 1921 and 1922.

Enquiries Answered

R.I.B.A. Special War Examination.

G. H. G. (Swansea) writes: "Can you tell me how many candidates sat for the special war examination of the R.I.B.A. last November, and how many qualified in the examination?"

—The information required by our querist is not yet available, but we hope to publish it in an early issue.

Storage of Drawings.

W. S. O. writes: "What is the best method of storing drawings for ready reference?"

—Drawings are best kept flat in drawers. They should be weighted on top, preferably by strips of sheet lead, otherwise they are bound to stray over the rear edge of the drawer, with the disastrous consequences that are no doubt familiar to all architects. We believe that a certain number of special cabinets for the storage of drawings are to be disposed of by the Office of Works. Applications should be made to the Office of Works Sale Room in the basement at Storey's Gate, Westminster.

Swept Slating to Houses.

In our last issue W. H. P. (Newcastle) writes: "Please inform me where I can obtain any publications which deal in a practical manner with the method employed in executing swept slating to roof valleys, etc., to mansions and cottage work."

—Two of our readers now inform us that the particulars asked for are given on pages 136, 143, and 151 of volume 2 of the Architects Library Building Construction, edited by Mr. F. M. Simpson, F.R.I.B.A., and published by Longmans, Green and Co., of London. In 1911 we published some interesting illustrated articles on swept slating in THE ARCHITECTS' JOURNAL. Two of these, from the pen of Mr. Harold E. Henderson, appeared in our issues of November 15 and December 6, and another by Mr. Edwin Gunn in our issue of November 22.

Liquidation of War Contracts

The fourth report of the House of Commons Select Committee on National Expenditure, dealing with the progress made in the liquidation of munitions contracts, states that about 180 of the loans made during the war for erection and equipment of works and for working capital to the firms are still outstanding. In most cases the department is satisfied with the security it holds, and does not anticipate a loss of more than 2 per cent. on the whole. In January the L.G.B. asked the Ministry of Munitions to arrange for the supply of 2,000,000,000 bricks, 250,000,000 slates, 65,000 wooden doors, and the cement, glass, and metal and sanitary fittings required for the erection of 100,000 houses during 1919. The Building Materials Department of the Ministry of Munitions have entered into a large number of contracts for the supply of these materials direct to the sites at prices lower than those at which it would have been possible for local authorities to buy. The arrangements under which the materials are supplied are such that the local authorities reap the full benefit of the reduced prices. Attention is drawn to the great expansion which has taken place in the powers and duties of the Ministry of Labour, which now has a staff of 19,911 persons, and is in occupation of 1,018 sets of premises, which have been acquired by means of purchase, lease, or interdepartmental arrangements throughout the United Kingdom. The Ministry has in consequence of its multifarious activities rapidly become one of the great spending departments of the State, and the Committee consider it of the highest moment that the method of financial administration and control, and also the detailed expenditure upon the various departments of the Ministry, should be subjected to close scrutiny. It is recommended that the operations of the several departments of the Ministry should be watched, that some of them should be closed down at the earliest possible moment, and that the expenditure of the Ministry should be carefully scrutinised from time to time by a Select Committee or other similar body reporting periodically to the House of Commons. "Every public department naturally deems itself indispensable, and this is not less true of the newer than of the older departments. On the other hand, the newer departments lack the traditions which have imposed upon the older some measure of economy. The Committee have, therefore, thought it the more incumbent upon them to draw the attention of the House of Commons to the work of the Ministry of Labour and to recommend continued scrutiny into its operations."

The Week's News

Steel Industry for Harrogate.

A group of steel works is to be erected in the Starbeck suburb.

New Public Hall.

Tadcaster has been promised a new public hall as a war memorial by two donors.

Nottingham.

One of the great cycle-making companies is erecting two new factories at Lenton.

Flint Castle.

Flint Castle—dating from the time of Edward the First—is being taken over by the Government, and is to be placed in repair.

Architect's Change of Address.

Mr. H. Austen Hall, F.R.I.B.A., has removed to new offices at 6, New Burlington Street, Regent Street, W.1. Telephone number: 6977 Gerrard.

Mold Memorial Scheme.

Nearly twelve acres of land have been bought, of which seven acres are to form a town memorial recreation ground, and the remaining acreage is to be the site of a new elementary school.

Slough Swimming Bath.

Slough U.D.C. has decided to purchase two acres of a valley as a site for open-air swimming baths. A tributary of the Thames runs through the land, making it eminently suitable for the purpose.

Golder's Green Memorial.

It is proposed to erect a cenotaph opposite the Tube Station at Golder's Green. The monument will consist of a clock tower with three arches beneath in which brass plates bearing rolls of honour are to be placed. The scheme will involve about £10,000.

Architectural Partnership.

Mr. J. Murray Easton and Mr. Howard Robertson state that they have entered into partnership and will practise their profession as architects under the style of Messrs. Easton and Robertson, at Ulster Chambers, 168, Regent Street, London, W.1. Telephone: Gerrard 5268.

New Pictures at the National Gallery.

There is a fine selection of pictures of the Spanish School in Room XXVIII., which has just been reopened to the public. The pictures include a striking example of El Greco's mature style—an "Agony in the Garden"—which was till recently in the Convent of Las Salesas Nuevas, Madrid.

Industrial Arbitration.

Recently Mr. Ernest J. Brown gave an address upon "The Industrial Court of Arbitration" to the employees of Messrs. Higgs and Hill, at a meeting held in the firm's canteen at South Lambeth. Prior to delivering his address, Mr. Brown presented the prizes won by the students at the drawing-class conducted by the firm; some interesting work by the students was exhibited in the canteen.

Royal Sanitary Institute.

Among the courses of lectures and demonstrations which have been arranged by the Royal Sanitary Institute is one to commence on February 2 for sanitary officers. The course, which includes the subjects scheduled for the examinations of the Institute and of the Sanitary Inspectors' Examination Board, will consist of lectures, inspections, and demonstrations during visits to public and private works illustrative of sanitary practice and administration, and demonstrations on the routine of an inspector's office work and duties. Full particulars may be obtained from Mr. E. White Wallis, F.S.S., 90, Buckingham Palace Road, S.W.1.

New Derbyshire Railway.

It is proposed to construct a short length railway line from Grindleford to Longstone in order to link up the Dore and Chinley branch of the Midland at Grindleford Station with the Manchester branch of the Midland at Longstone Station. The total length of the proposed railway will be about seven miles, and the capital required is £225,000. The railway is to be worked by electrical power with running powers over the Midland into that company's Grindleford, Bakewell, and Longstone Stations.

Board of Trade Appointments.

Consequent upon the appointment of Mr. E. S. Grey, senior official receiver attached to the High Court in Bankruptcy, to be controller of the Clearing Office for Enemy Debts, the President of the Board of Trade has appointed Mr. William Percy Bowyer to be senior official receiver; Mr. Daniel Williams, hitherto senior assistant official receiver, to be offical receiver; and Mr. Frank Townsend Garton, assistant official receiver, to be senior assistant official receiver.

Chapel in Westminster Cathedral.

A committee has been formed to establish a permanent memorial to the officers and men of the Irish regiments killed in the war. As the majority were Roman Catholics, the memorial is to take the form of a chapel in Westminster Cathedral. In the chapel each regiment will have its own marble tablet and its own "Liber Vitae," containing the names of the fallen, irrespective of creed. To carry out the scheme, £10,000 is required, and towards this sum officers and men of the Irish regiments have already subscribed.

Swedish Building Trade Fair.

The Department of Commerce propose to hold meetings of representatives of Swedish crafts in Stockholm and Sundsvaal. The date of the meeting at Stockholm is fixed for the end of May. Lectures and demonstrations will be given as regards machinery and methods of work with a view to raising the quality of the products of Swedish crafts. It is also proposed to hold simultaneously a building fair at Stockholm, to ascertain what standard articles exist and what can be done to modernise and develop the building industry.

Engineering Firm's Change of Address.

Messrs. Peter Lind and Co., designing engineers and contractors for all types of reinforced concrete structures, have removed to 2, Central Buildings, Westminster, S.W.1, to which all communications should now be sent. Removal to more commodious premises has become necessary in order to cope with the continually increasing demands upon the various departments of the company. The telegraphic address and telephone number of the company remain unaltered, viz.: Telegrams, Inneloclin; 'phone, London; telephone, Victoria 3746.

Old English Signs.

After reading the "Architectural Causerie" on old English signs, which appeared in our New Year's special issue Messrs. Lewis Berger and Sons, Ltd., makers of colours, paints, and varnishes, of Homerton, E.9, have sent us a copy of "Berger's Mercury" for December, 1918, in which appears an extremely interesting and brightly written article on the same subject. The author deals with that famous hostelry, the Cat and Fiddle, which stands 1,700 ft. above sea-level, on the moorlands between Buxton and Macclesfield, and investigates the origin of a number of well-known signs.

The Bartlett School of Architecture.

Professor Simpson will give two public lectures this term in connection with the Bartlett School of Architecture. The first will be entitled "English Architecture in the XIX. Century," and will take place on February 12. The other, on "The Trend of Architectural Thought in England To-day," will be on February 26. Both these lectures will be held at 5.30 p.m., and will be illustrated by lantern slides. Admission will be by ticket only. Tickets may be obtained by sending a stamped addressed envelope to the Publications Secretary, University College, Gower Street, London, W.C.1.

Birmingham A.A.

At the sixth general meeting of the Birmingham Architectural Association, Mr. A. H. Barker delivered a lecture entitled "Recent Advances in the Theory of Ventilation," in which he pointed to the revolution that has taken place in the theories previously held. He stated that people could breathe what was described as "vitiated air" without ill-effect as long as such air is kept in motion. The importance of through ventilation did not depend upon the admission of fresh air so much as upon the fact that the air was kept moving. It might be possible to substitute for natural through ventilation mechanical means which could in some cases be more easily and readily applied.

Federation of British Industries.

The Federation of British Industries has accepted the invitation of important members of the West Indian commercial community to send a representative to a special conference of the Associated Chambers of Commerce of the British West Indies, to be held at Barbadoes on February 23, 1920. Mr. Moir Mackenzie, the head of the Empire Section of the Federation, has left for the West Indies in company with Sir Edward Davson. The matters arising at the conference are very wide in scope, and are of the utmost importance to the commercial future of the British West Indies. The whole trade policy and development of the islands will come under review, especially their relations to the United Kingdom.

Industrial Problems.

A series of lectures dealing with industrial problems have been arranged to take place at the Carpenters' Hall, Throgmorton Avenue, London, under the auspices of the Industrial League and Council. Sir George Paish, the financial expert, has promised to give a lecture on "A Defence of Capitalism" as soon as he returns from America. Anyone desiring to attend the lectures can obtain full particulars, with tickets, from the Secretary to the League and Council, at 82, Victoria Street, S.W.1. An address on the industrial situation is to be given by the Right Hon. W. Adamson, M.P.; Mr. G. J. Wardle, C.H., M.P., Parliamentary Secretary to the Ministry of Labour, will give an address on industrial unrest and Whitley councils, and a lecture by Mr. T. E. Naylor will deal with trade unionism and output.

Town Development and Housing

Hendon.

Hendon D.C. propose to build 244 concrete houses on the Brent Hill Farm site.

Glasgow.

Building plans providing for the expenditure of over a million pounds have just been passed by the local authorities.

Stonehaven.

Intimation has been received from the Scottish B. of H. that the Council should erect at least forty-two new houses.

Bellingham.

The local authorities have decided to erect 130 houses, and a site has been promised for many of them.

Leicester.

A tender has been accepted for the erection of 120 houses for £105,419, exclusive of site cost.

Redruth.

The Housing Commissioner has requested an immediate report on the local housing problem.

Harrogate.

Twelve acres of glebe land have been bought for the general development of the town.

Lenton.

Application has been made for sanction to borrow £4,700 to purchase the Abbey site for housing.

Acton.

Acton has applied for sanction to borrow £28,175 to prepare land around its northern playing fields and the concrete bungalows.

Edinburgh.

Negotiations are in progress for the purchase of 130 derelict houses to be reconstructed under the Corporation housing scheme.

Peebles.

House-building at Peebles on the council's site has been stopped, the bricks being used having been condemned. The authorities are investigating the complaint.

Stanstead.

Stanstead (Essex) R.C. has thrown out its housing scheme because the tenders were for thatched roofs. It was stated that thatch would be £73 per house cheaper than tiles.

Gilshocill.

The Gilshocill section of the Glasgow scheme provides for the erection of seventy-five houses at an estimated cost of £63,000.

Darlaston.

Another small housing site has been purchased. Tenders for the erection of forty-two houses were accepted at £655 each, and official approval has been received to accept others at £698 each.

Tredegar.

All the tenders received for the erection of one hundred houses have been abandoned by the Council who are entering into direct arrangements with the builders.

Lewisham.

Lewisham B.C. have formally received a recommendation from the Housing Committee that the Bermondsey and Deptford Borough Councils should be informed that they would be prepared to join with them in the promotion of a scheme for a joint garden city. The joint scheme is one to acquire 450 acres of land, the greater part of which belongs to the Earl of Northbrook, and erect 4,500 houses on garden city lines. The land is situated between Grove Park, Bromley Road, and Bromley Hill, Catford. It is estimated that the cost of the scheme will amount to nearly £5,000,000.

Edinburgh.

Estimates have been accepted for the fourth instalment of houses on the Gorgie site, forty-eight houses for £38,680. A scheme has been adopted to deal with certain unhealthy areas, the estimated cost being £187,000.

Sheffield.

Sheffield Corporation has accepted an offer from the building trades employers of the city to build during this year 1,500 houses on corporate land. Thirty new houses on the Walkley site are nearly ready for occupation.

Birmingham.

A contract has been arranged for the erection of 1,066 houses by one firm, the price averaging about £828 per house. Major Travers, R.E., F.R.I.B.A., has been appointed deputy housing director and architect.

Darlington Improvement.

Operations have just been commenced to cut an important new road at Darlington. The road, which opens up building sites, will extend for 1,220 yards, and will be 45 ft. wide, and will save three-quarters of a mile between two portions of the town. The total cost of making will be £11,710, and towards this the Road Board have given £6,000. The land has also been given by the owners.

Winnipeg Housing Scheme.

The Housing Commission, operating under the city's housing plan, will make a loan of 85 per cent. of the net cost of the home. A first mortgage will be taken on the property for twenty years, repayable at the rate of 7.13 dollars a month for each 1,000 dollars borrowed. The builder may select his own lot in any part of the city, and pay any part or all of the borowed money without notice at any time.—Reuter's Trade Service.

Bentley.

The Bentley U.D.C. are proposing to instal electric light and heating into the new houses they are erecting under the Housing Scheme. The tariff is to consist of a fixed rental of a shilling per house per week, and in addition a charge of twopence per unit metered. The Council are to provide the lighting installation in each house, and to wire and fix in the kitchen or scullery suitable apparatus; the Council to guarantee a payment towards the capital charges.

Otley.

The Otley D.C.'s housing scheme at Newall is taking shape. A loan of nearly £6,000 is to be raised to pay for the site of twenty acres. Six tenders have been received for laying out the land, ranging from £15,000 to £20,100, and a loan of £16,500 is to be raised to meet this cost. Plans have been approved for laying a new water main to supply the houses at an estimated cost of £2,500. Plans have also been approved for widening and sewering Weston Lane, which will be the main road of approach.

Walker.

The Ministry of Health has refused to sanction the contract entered into for the erection of 100 houses at Walker until the committee had considered types of houses which were being built at Liverpool and Poole for £750—about £200 per house less than the Walker contract. The difference in the cost was largely due to the wages and other expenses at the places mentioned being lower than those in Newcastle, and a deputation was appointed to wait on the Ministry of Health immediately, to urge upon the authorities the necessity of the Newcastle scheme being proceeded with without delay. The committee decided to adhere to their scheme of central heating for the hostel at Walker.

Williams and Williams: New Year's Gathering

The annual New Year's gathering of the staff of Messrs. Williams and Williams Ltd., of the Reliance Works, was held recently at Chester, when about 350 of the staff and employees of the works were entertained at dinner, following which was dancing and a whist drive. Mr. Herbert Watkinson presided, and supporting him were the other directors of the firm, Mr. E. N. Humphreys, Mr. Alan Williams and Mr. B. A. Williams. The loyal toast having been honoured, Mr. A. H. Williams proposed "The Navy, the Army, the Air Force, and the Allies." Williams and Williams, he said, were proud of the boys who had "done their bit," and they were in the happy position of being able to find them a berth on their return. They all were aware that the firm gave preference to those who fought successfully. The firm felt they were the men who would help to overcome the difficulties before them.

Captain Eustace Jones, responding, said he was pleased to hear the firm was giving preference, on their return, to the men who had been overseas. It was only what was due to them, because some of them who had been away had to lay down perhaps, good prospects at the time they went, and they naturally expected when they came back that they would be recognised and given the preference which Mr. Williams had said the firm was giving.

Mr. E. Noel Humphreys proposed "The Guests," and Major Shaw, responding, said that in the period of reconstruction what we actually wanted was not so much personal economy, as production on a great scale. He was convinced that what was necessary in industry at the present time was the spirit of the old Army in the field, which was built up on mutual self-sacrifice and confidence between leader and led. The future of the country depended very much upon that mutual confidence.

Mr. W. H. Johnson, of the National Brassworkers and Metal Mechanics, said that with regard to production, Williams and Williams had set a spirit which would leave its mark in Chester, and in the world.

Mr. Slack, representing the Ministry of Labour, said that the firm had helped them considerably during the war, and since the Armistice probably between 200 and 300 ex-Service men had been taken into employment by the firm. With regard to the King's appeal on behalf of disabled men, the firm was one of the first to respond. Not only did they guarantee to take their five per cent., but, to a great extent, they had exceeded that.

Mr. Doudson submitted the toast of "the directors of Williams and Williams, Ltd." The Chairman returned thanks, and said that directors always were supposed to look upon a company from the point of view of cash, but their directors would be only too glad to have a company where everybody connected with it was happy in his work.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
CAVATOR AND CONCRETOR.	
avator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth,
ourer, 1s. 8d. per hour.	not exceeding 6 ft. deep, basis price, 3s. per yd.
vy, 1s. 8d. per hour.	cube.
iberman, 1s. 9d. per	Exceeding 6 ft., but under 12 ft., add 25 per cent.
our.	In stiff clay, add 50 per cent.
ffolder, 1s. 9d. per hour.	In underpinning, add 120 per cent.
tchman, 6s. 6d. per shift.	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
ken brick or stone,	Headings, including timbering, add 400 per cent.
in., 7s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
mes ballast, 17s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Gravel, 17s. 6d. per yd.	Planking, 5½d. per ft. sup.
sand, 18s. 9d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth
shed sand, 20s. per yd.	35 per cent.
ened ballast or gravel,	Hardcore, 2-in. ring, filled and rammed 4 in. thick,
ld 10 per cent. per yd.	2s. per yd. sup.
ker, breeze, etc., prices	Do. 6 in. thick, 2s. 9d. per yd. sup.
cording to locality.	Puddling, 30s. per yd. cube.
tland cement, 79s. per	Cement concrete, 4.2.1, 53s. per yd. cube.
n.	Do. 6.2.1, 49s. 9d. per yd. cube.
in small lots, ex	Do. in upper floors, add 12½ per cent.
ondon stock, 100s. per	Do. in ferro concrete work, add 20 per cent.
n.	Do. in underpinning, add 50 per cent.
s lime, 64s. per ton.	Lias lime concrete 41s. 3d. per yd. cube.
ks charged extra at	Breeze concrete, 26s. per yd. cube.
. 6d. each and credited	Do. in lintols, etc., 4s. 9d. per ft. cube.
hen returned at 2s.	
nsport hire per day:	
art and horse, 26s.	
ton motor lorry, £6.	
eam lorry, 5-ton, £7.	
railer, 30s.	
eam roller, £4 10s.	
'ater cart, 30s.	
AINER.	
ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes,
herman, 1s. 9d. per	4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
our.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6 in.
klayer, 1s. 11½d. per	14s. 6d., 9-in. 25s. 6d. per ft.
our.	Note.—These prices include digging and filling for
nber, 2s. per hour.	normal depths, and are average prices.
chman, 6s. 6d. per shift.	
neware pipes, tested	
uality, 4-in. 3s., 6-in.	
. 9d., 9-in. 7s. 11d. per	
i.	
t iron pipes, coated,	
ft. lengths, 4-in. 4s.,	
in. 5s. 9d., 9-in. 8s. 6d.	
r yd.	
land cement and sand,	
e Excavator above.	
d for caulking, 49s. 3d	
r cwt.	
ket, 1s. 9d. per lb.	
CKLAYER.	
klayers, 1s. 11½d. per	Brickwork in stone lime mortar, Flettons or equal,
our.	£44 10s. per rod.
ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
Folder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
don stocks, 84s. 6d. per	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
tons, 73s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
Yordshire blue, 198s. 6d.	Do. picked stocks, 6d. per ft. sup. extra.
r M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d.
bricks, 223s. per M.	per ft. sup. extra.
zed, salt, white, and	Struck pointing, 4d. per ft. sup. extra.
ory stretchers, £25	Tuck pointing, 10½d. per ft. sup. extra.
r M.	Weather pointing, 4d. per ft. sup. extra.
headers, £24 10s.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
r M.	Do. 1½-in., 5s. 10d. per yd. sup.
ours, extra, £6 per M.	Do. 2-in., 7s. per yd. sup.
onds, less, £1 per M.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
ent and sand, see Ex-	Asphalte damp course, ½-in., 10d. per ft. sup.
vator above.	Do. vertical, 1s. per ft. sup.
e, grey stone, 62s. per	Slate damp course, 1s. 10d. per ft. sup.
n.	Asphalte paving in two thicknesses, ¾-in., 9s. per yd.
ed lime mortar, 24s. 3d.	Do. skirting, 6-in., 1s. 3d. per yd.
r yd.	
p course, in rolls of	
in. 3s. 8d., 9 in. 6s. 7d.,	
in. 8s. 10d., 18 in.	
s. 6d. per roll.	
SON (INCLUDING SLATE).	
on, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
ourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
Folder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
	Sunk face, 3s. 1d. per ft. sup.
land stone:	Do. circular, 3s. 8d. per ft. sup.
hthed, 4s. 5d. per ft.	Joints, arch, 2s. per ft. sup.
cube.	Do. sunk, 2s. per ft. sup.
ished, 4s. 8d. per ft.	Do. do. circular, 2s. 8d. per ft. sup.
cube.	Circular-circular work, 10s. 3d. per ft. sup.
n stone, 3s. 1d. per ft.	Plain moulding, straight, per inch of girth, 7½d. per
cube.	ft. run.
stone, 7s. 7d. per ft.	Do. circular, 10½d. per ft. run.
cube.	Half sawing, 9d. per ft. sup.
paving, av. 2 in., 7s. 10d.	Add to the foregoing prices if in York stone, 25 per
r yd. sup.	cent.
efield red, 6s. 4d.	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
(Usual trade extras for large blocks.)	Deduct for Bath, 33⅓ per cent.
	Do. for Chilmark, 5 per cent.
Slate shelves, rubbed, 1 in., 2s. 2d. per ft. sup.	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
Cement and sand, see "Excavator," etc., above.	Rubbed rounded nosing to do. 6d. per ft. lin.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal:
Tiler, 1s. 10½d. per hour.	Ladies 74s., Countess 83s., Duchess 90s. per square.
Scaffolder, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 142s. per
Labourer, 1s. 8d. per hour.	square.
N.B.—Tiling is often "Piecework."	Delabole do. 85s. per square.
	Add, if vertical, 4s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square
Slates, 1st quality, per M.:	approx.
Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 9d. per ft. approx.
	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 82s. 6d. per square.
Clips, lead, 9½d. per lb.	Do. machine-made do. 75s. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 9½d. per dozen.
Nails, compo, 56s. 6d. per cwt.	
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggies 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 11s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 11s. 6d. per ft.
Labourer, 1s. 8d. per hour.	cube.
	Do. framed in trusses, etc., including ironwork,
Timber, average prices, ex-London stock and d/d works or site.	11s. 10d. per ft. cube.
	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per ft. cube.
Archangel:	Sarking felt laid, 1s. 6d. per yd.
1st £52, 2nd £49 10s., 3rd and U/S. £47 10s. per std., equals	Centering for concrete, etc., including horsing and striking, 70s. per sq.
1st 6s. 4d., 2nd 6s., 3rd and U/S. 5s. 9d. per ft. cube.	Slate battening, 23s. 6d. per sq.
Boards, 1st £53 10s., 2nd £51 3rd and U/S. £48 10s. per std.	1-in. deal gutter board on firring, 92s. 6d. per sq.
Do. F.E., 3rd and U/S. £43.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. per ft. sup.
Battens, 3rd and U/S. £38.	2-in. do. do. 3s. 6d. per ft. sup.
Yellow: 1st £62, 2nd £51, 3rd and U/S. £47 10s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 3d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 3s. 3d. per ft. sup.
Boards, planed, U/S. £46 per std., equals 47s. per sq. of 1 in.	Do. do. do. 1½-in., 2s. 6d. per ft. sup.
Flooring, P.E., U/S. 42s. 6d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 43s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. per ft. sup.
Wainscot, oak, 3s. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 3s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 3s. 9d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 8s. 6d., 1-in. 10s. 6d., 1¼-in. 13s. 6d. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. per ft. sup.
	2-in. deal strings, fixed, 3s. 9d. per ft. sup.
PLUMBER.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc.,
Mate or labourer, 1s. 8d. per hour.	65s. per cwt.
	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 1s. 9d. per ft.
Lead, milled sheet, 49s. 9d. per cwt.	Do. ¾-in., 2s. 2d. per ft.
Do. drawn pipes, 50s. 3d. per cwt.	Do. 1-in., 2s. 7d. per ft.
Do. soil pipe, 54s. 9d. per cwt.	Do. 1¼-in., 3s. per ft.
Do. scrap, 23s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 8s. per ft.
Copper, sheet, 2s. 8d. per lb.	Do. 3-in., 8s. 9d. per ft.
Solder, plumbers, 1s. 5d. per lb.	Do. 4-in., 12s. 6d. per ft.
Do. fine, 2s. 1d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Red and white lead, 7d. per lb.	Do. 3-in., 2s. 8d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 5d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Do. O.G., 4-in., 2s. 1d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 43s. 6d. each.
	Baths only, with all joints, 34s. 6d. each.
	Lavatory basins only, with all joints on brackets, 26s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4¼d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7¼d. per ft.
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing in beads, 21 oz. 1s. 2¼d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Cathedral, ordinary, 9¼d. per ft.	Patent glazing in rough plate, normal span, 2s. to 2s. 3d. per ft.
Do. double, 1s. 0¼d. per ft.	
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 3s. 10½d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 33s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 65s. per ton.	Angles, rounded, Keenes on Keenes, 9¼d. per ft. lin.
Do. fine, 66s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3¼d. per ft. lin.
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 2d. per yd. sup.
Genuine white lead, 85s. per cwt.	Do. subsequent coats, 1s. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 1s. 9d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 10s. per gall.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
	Stripping old paper and preparing, 2s. per piece.
	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Distemper, washable in ordinary colours, 55s. per cwt.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Petrifying liquid, 3s. 6d. per gall.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Double size, 6s. 7d. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	
Do. Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £47 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £35 per ton.
Erector, 1s. 10d. per hour.	Do. in compounds, £39 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £38 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 57s. 6d. per cwt.
Mild steel in British standard sections, £31 per ton.	Do. in light railings and balusters, 77s. 6d. per cwt.
Cast-iron, heavy	Fixing only corrugated sheeting, including washers and driving screws, 1s. 3d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £38 per ton.	
Do. Galvd., £49 per ton.	
Corrugated sheets, black*	
Do. Galvd., £49 per ton.	
Driving screws, galvd., 5s. 5d. per grs.	
Washers, galvd., 1s. 11d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

Ideal Home Exhibition : R.I.B.A. Conference

The Council of the R.I.B.A. have consented, at the request of the "Daily Mail," to organise a conference on certain aspects of the housing problem, which will take place on the first three days—February 4, 5, and 6—of the Ideal Home Exhibition at Olympia.

The Exhibition will be opened by H.R.H. Princess Alice, Countess of Athlone, on February 4 at three p.m. The Conference will begin at 3.30 p.m. the same day, and it is hoped that Her Royal Highness will attend the opening meeting. Sir Aston Webb, P.R.A., will be in the chair, and Dr. Addison will deliver the opening address. The Minister of Health will be supported by Lord Astor, Sir Kingsley Wood, M.P., Sir Tudor Walters, M.P., Major Harry Barnes, M.P., Mr. Bernard Holland, Chairman of the Housing Committee of the London County Council, Mr. Oscar Warburg, L.C.C., Mr. Raymond Unwin, Mrs. S. A. Barnett, and a number of others interested in the housing movement.

The Conference has been organised by Professor S. D. Adshead, Vice-President R.I.B.A., and Professor of Town Planning in the University of London; Mr. E. Guy Dawber, Vice-President R.I.B.A., and Mr. H. D. Searles-Wood, Member of Council of the R.I.B.A., and President of the Concrete Institute. Professor Adshead has arranged an exhibition of town plans and house designs in the conference room.

The following programme shows the arrangements that have been made up to the present:

First Day's Conference, February 5.—10.30 a.m.: Lecture—"The Financial Aspect of the Housing Problem." 11.45 a.m.: Lecture—"The Difficulty of Obtaining Contracts." 2.30 p.m.: Lecture—"The House Beautiful." 3.45 p.m.: Lecture—"The Preservation of Old Cottages and Villages."

Second Day's Conference, February 6.—10.30 a.m.: Lecture—"Difficulties of Transport and Materials." 11.45 a.m.: Lecture—"Economies in Planning and in the Employment of New Materials." 2.30 p.m.: Lecture—"Housing from the Working Man's Point of View." 3.45 p.m.: Lecture—"New Houses and the New Social Order."

Our Small Advertisements

The Devon County Council require an architect at a salary of £500 per annum, and two draughtsmen at salaries from £250, rising to £300 per annum, and from £150 to £200 per annum respectively.

A temporary assistant is required by the Ebbw Vale U.D.C. for their Housing Architect's office.

Applications are invited from architects by the L.C.C. for a visiting teacher of architecture for two evenings a week, and of building construction for one evening a week, at the L.C.C. Hackney Institute.

The Leeds School of Art require a full-time assistant instructor.

Vacancies are also announced for two junior architectural assistants in London.

A quantity surveyor's writer, an printer, of Pendlebury, Lancs, solicit work by his electro-litho process, and general foreman (bricklayer) desires a re engagement.

Tenders are invited by the Messrs Andrew and Randell, MM.S.A., of St Austell, for the erection of houses and th construction of roads and sewers for th U.D.C.

North Cliffe House, Bridlington, wit stabling outbuildings, and extensiv grounds is to be offered for sale on Feb ruary 26.

Wages in the Building Trade

As a result of meetings between th National Federation of Building Trad Employers and the National Federation o Building Trade Operatives under the are scheme, a revision of wages has bee agreed upon for the South-Wester regional area, including the counties o Devon, Cornwall, Somerset, Dorset Wilts, Hereford, and Gloucester. It is t come into effect on May 1 next and stan until December 1 next. Under this settl ment all tradesmen, except painters, wi be paid as follows: In Grade A towns 1s. 11d. per hour; Grade B towns, 1s. 9½ per hour; Grade C towns, 1s. 8d. pe hour; Grade D towns, 1s. 7d. per hou Painters are to receive one penny an hou less than other tradesmen except in suc places where there is less than one penn difference already existing, and laboure 3d. an hour less than tradesmen.

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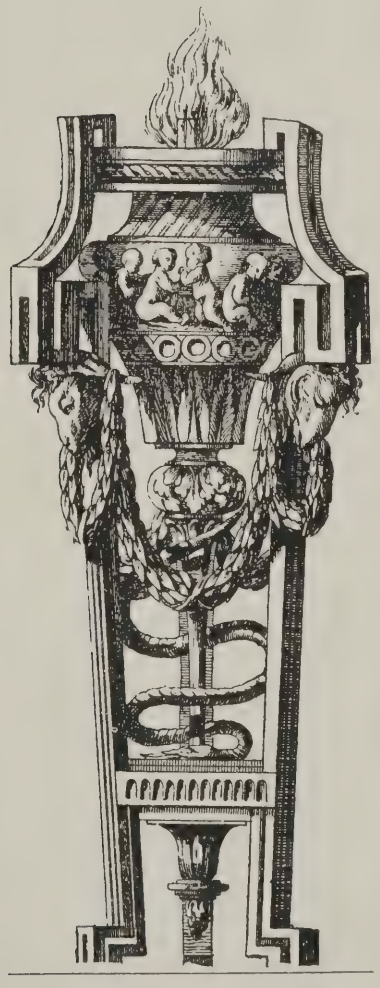
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

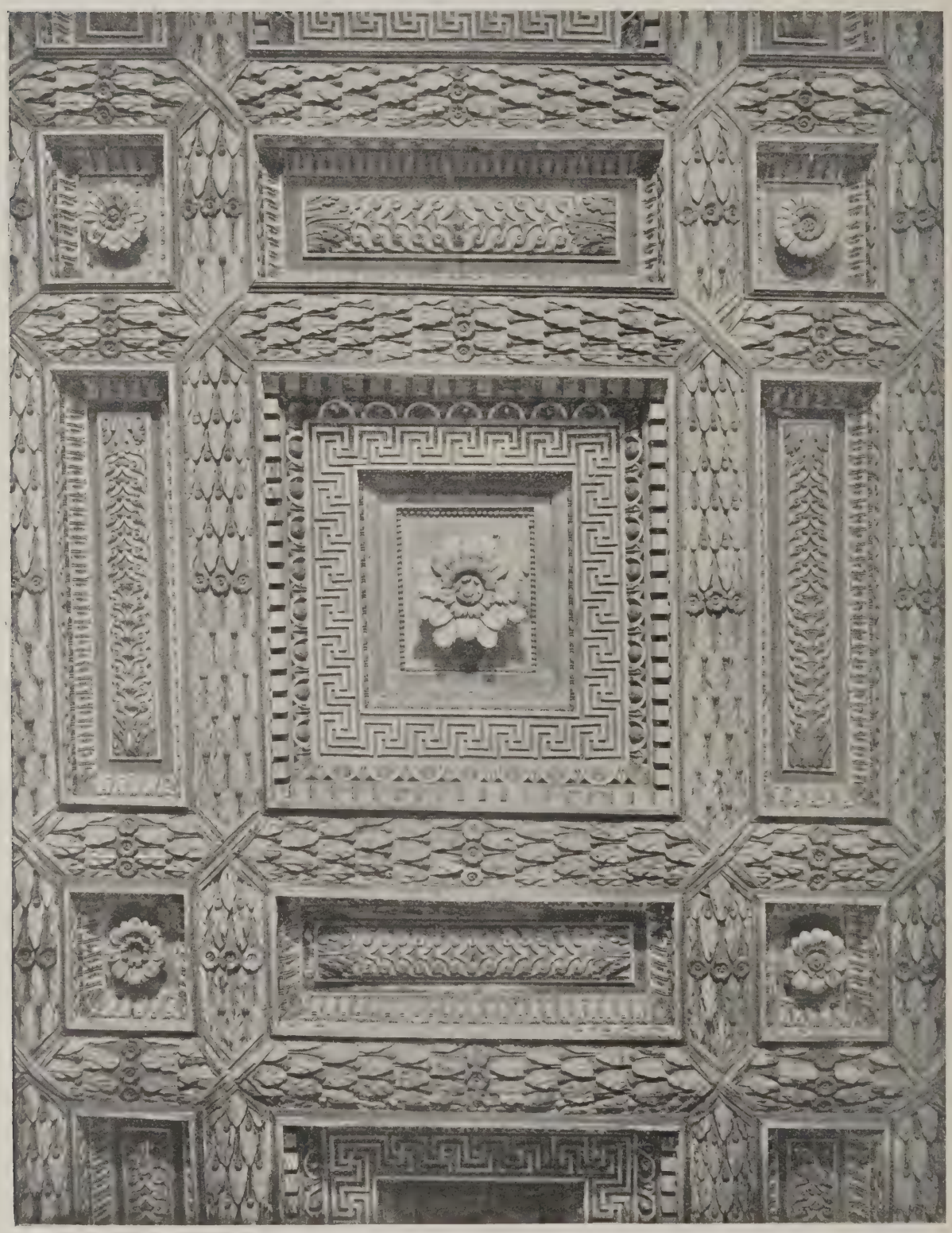


DETAIL BY DE LA FOSSE (IV.).

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 4.—Palazzo Massimi, Rome: Detail of Ceiling

Baldassare Peruzzi, Architect



In the finishing of the Massimi Palace (mid 16th century period) Peruzzi gave as much attention to the character of the panelled ceilings as to the treatment of the external stonework. This illustration shows the variety that can be imparted to flat surfaces by their arrangement in planes.

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Why Skyscrapers for London?

SIR MARTIN CONWAY wants skyscrapers in London. This is his ideal: "gigantic communal buildings, thirty or forty storeys in height, housing hundreds and possibly thousands of people." The main reason given for this startling departure is that London is already full. All that is left to us is the sky. The earth has its limits. The sky has none. The notion charms because it is so simple.

Yet we think that most people who know the facts about skyscrapers will consider Sir Martin Conway's suggestion as hopelessly "up in the air." Landlords, doubtless, will bless him—and with good reason. A skyscraper tenement would be a gold-mine. But what about the tenants? Here lies the crux of the matter. The man on top would be all right until the fire-alarm was raised—or the maroon heralded the air-raid. Not so the man on the ground floor. He might escape from a fire, or avoid the enemy bomb, but he could never get away from bad air. If he wanted the sunlight he would have to go up in the lift to get it, and find a friend on the top to let him enjoy it.

This is not theory. It is fact. The skyscraper tenement has already been tried and found wanting. Germany made the experiment long before the war-lust thrust her to her ruin. We talked of copying her example until we sent deputations to Berlin to see. After that we turned our eyes to garden cities and garden suburbs and the two-storeyed cottage of our ancestors. The reason is not far to seek. It was found that the skyscraper tenements of Germany were tuberculosis traps. In the wells of the great courtyards there lay a cushion of bad air. So high were the walls that the sunlight never fathomed the well. Its sterilising beams could not reach the disease germs that multiplied unchecked in the communal yard. So the health of the tenants suffered. Berlin's tuberculosis statistics were notoriously bad. How could they be otherwise when so many of its people could not get sunlight or fresh air in their homes?

That is the lesson of Germany. We are not without examples at home. As Mr. William Woodward points out in an interview, large blocks of high buildings for the working-classes have been put up in London. "These buildings," he says, "though nothing like the height suggested by Sir Martin, are gloomy and depressing and in some cases, where there is an open courtyard, which the sun cannot enter and through which there is no free ventilation, the effect upon the children who play there is highly detrimental."

If there were no other objection to skyscrapers for London, this, we think, would be enough. Yet it is by no means the only objection. Apart from the fact that they would be death-traps in case of fire, there is the practical issue, which applies to many parts of the capital, as to whether they could be built at all. London is not like New York. Its soil is less substantial. In London the ground is riddled with "tubes" and underground railways. New York's transport is mainly above ground. It is a question for geologists, but we doubt whether solid enough foundations could be made in London for such huge and heavy buildings as New York has.

There is, again, the problem of the width of the roads. In New York the streets are much wider than in London. Moreover, they are straight. London's streets are narrow and winding. High buildings demand wide thoroughfares. To put up skyscrapers in London would mean re-building a large part of it. It would also call for more space for roads and much re-planning. That might be done with advantage, but it would cost more than it was worth. And when it had been done, after years of infinite toil, all we should get would be another New York. It would be another New York without the wonderful sky-line which New York gives to those seeing it from the sea. London can never get that, and without it a large part of the grandeur of its skyscrapers would be lost. Even with New York's wider streets it is not easy to sense the beauty of its gigantic buildings. In London the whole effect would be lost in the upper air. If we keep to the sound rule that the height of a building should not be more than the width of the street, the building of thirty- or forty-storey skyscrapers would be so costly as to be impracticable. Yet no other way will satisfy the twin needs of beauty and fresh air.

Putting aside the practical question of "ancient lights"—which no skyscraping scheme could well disregard—the objections we have outlined are, in our opinion, fatal. London is a city with fine traditions and some magnificent buildings. They could not exist side by side with the towering tenements Sir Martin Conway desires. One or the other would in the end have to go, and it would not be the skyscrapers. That would mean the uprooting of London, which is unthinkable.

Yet some way must be found out of the pressing problem of lack of room. The proper and natural development is to go outside rather than to crowd still more inside. Our trouble is not that there are too few people in the metropolitan area, but too many. When Belgium nationalised her railways and cheapened the fares the people went out of the towns into the outlying country. It was better for the towns, and it did not injure trade. The better health of the people proved the wisdom of the move. That is the lesson for London. The scheme of "satellite" towns, ringing the capital, is the best solution. There is ample room for all. Transport is the only difficulty, and that should not be a difficulty long. Not skyscrapers, but cottages. Not cushions of bad air, but plenty of sunlight. Not a cave-like life in the city, but a natural life in the country. To each family the pure fresh air of the outer zone where life may be renewed, and the garden plot which gives a man both food and health. Not the garish glare of the town, but the truer glory of Nature. Not up to the sky, but back to the land. That is the road for us. That is the true reform. All reform, we know, should "level up"; but skyscrapers do not offer us the kind of "levelling" that London needs.

CROSSLEY DAVIES.

Notes and Comments

Propagandist Work for the R.I.B.A.

AN inspiration towards lofty ideals is of high importance at any time. In an era of reconstruction its value can hardly be overrated. Mr. Halsey Ricardo's paper on "Citizenship," read before the R.I.B.A., and printed last week in this Journal, seems to us to deserve the widest possible publicity. It is in effect a powerful protest against the grossly material outlook that reflects and propagates so many ill consequences, moral and material, and it is an inspiring exhortation to a higher view of the duties of citizenship. Since, as he said, "architecture reflects in the most sensitive way the ideals in vogue at the time of construction," and buildings frankly disclose the sentiments of their founders, as well as reveal the standard of taste and craftsmanship available, it follows that we have to educate our masters. In other words, we have to reform the public taste to the end that it may demand and admire good buildings. Mr. Ricardo's paper is so cogently persuasive on this point that its widespread distribution should be highly educative, for architects as well as for the laity. Our earnest advice to the R.I.B.A. has been and is that to promote the best interests of architecture it must become a less academic and a more active body. To promote effectually the objects for which it exists; and to intensify its influence, it must adopt modern methods of procedure. Vigorous propagandist work among architects is essential; and until such time as an organising agency is appointed to do it, the full force and influence of the Institute will never be felt. In the meantime Mr. Ricardo's fine paper should be reproduced in pamphlet form and circulated as widely as possible. It would give an excellent start to the propaganda on which the Institute should enter with vigour and courage and without delay.

Devonshire House Rumours

Rumour is still busy with Devonshire House. For the moment, club gossips are concerned less with what is to be done with the site than with what will become of the remains that are worth preserving when the fabric is reduced to its units. It is said, for example, that the iron gates (which William Kent designed for another place) are as likely to go to Chiswick as to Chatsworth; but, whatever their destination, they are certainly worth keeping, whether chiefly for their workmanship or as a memorial of Devonshire House. So also, and for the same reasons, are the knockers attached to the wooden gates. Even if these knockers are somewhat lacking in artistic quality, they have a sentimental value which should make them secure of the hospitality of the London Museum.

Rats and Architecture

A paper on tropical and sub-tropical diseases, which was read by Dr. Louis W. Sambon at the Central Hall, Westminster, last week, contained inevitably a reference to rats and buildings. He had little faith, said the doctor, in a crusade of extermination against rats; but many species of animals had become extinct simply through change in their environment, and this could perhaps be provided for the rat "by a change in our architecture, making it impossible for it to secure a home in our buildings." As we have said on several previous occasions, reinforced concrete buildings afford no harbourage for rats, and a building that is fireproof is also rat-proof to about the same degree—not absolutely immune, perhaps, but tremendously more free from either hazard than the ordinary building of brick and timber.

Tall Rents and Tall Buildings

In the City of London, rents are mounting high, and the position, in the opinion of Sir David Burnett, calls for tall buildings. He does not believe in skyscrapers, but he thinks that the limit of 80 ft. in height should be altered. He thinks that the height allowed might be advantageously doubled, giving a structure of ten or twelve stories, and "greatly relieving the pressure on the surrounding premises." As might have been expected of a City magnate, Sir David rather exaggerates the commercial aspect of the question. Twelve-storey buildings would not increase the architectural amenities of London, but they would decidedly add to its dangers both from accident and from disease. This clamouring for congestion within a small area is itself a sort of disease. If London's commerce is expanding so rapidly, let her decentralise it, putting up decent buildings of reasonable height on the Surrey side, which is greatly in need of the dignity that stately commercial buildings would give it.

Old Harrow Inn Threatened

An inn familiar to several generations of Harrovians, the "Crown and Anchor," at the junction of High and West Streets, has been bought, together with other houses, with the object, presumably, of pulling it down to make room for contemplated improvements. Inns should be immortal. Often they are well-nigh immemorial. In almost every English county there are many that were ancient when stage-coaches first began to run. Sussex, for example, is rich in mediæval specimens—like the Star in Old Eastbourne, for instance—to which, and to several others in the same district, the Mermaid at Rye would rank as a more junior. While for quaintness and accumulated wealth of history the inns of oldest date are unsurpassed, those of Georgian origin embody more aptly the spirit of hospitality, such as made Shenstone's traveller "sigh to think he still has found his warmest welcome at an inn"; and the Georgian inn, with its horizontality that somehow seems rich in promise of peace and plenty, has more in it of what Mr. Geoffry Scott might term "the architecture of humanism."

The National Federation Report

In the forty-second annual report of the National Federation of Building Trades Employers (of whose annual meeting we give a précis on a later page) the tendencies of the times are seen as in a mirror: you do not get them all, but those within range are very faithfully reflected. Thus we get a fair view of the labour position, and an interesting explanation of the difficulties that arose respecting the demand for a forty-four-hour week. There are also references to the Industrial Council for the Building Trades, and to the important service rendered to architects as well as builders by Mr. E. J. Brown, a distinguished member of the Federation, who, appointed to serve on a revising committee formed by the Minister of Health to deal with a special Housing form of contract, had an effective share in shaping that document to equitable ends. Further topical items refer to a proposed building code for England and Wales, which is to be similar in principle to that adopted in Scotland, but modified in the details to suit English practice. A welcome instance of effectual co-operation is manifest in the statement that the Federation has offered to participate in the work and expense of establishing a standard method of measurement, which the Surveyors' Institution and the Quantity Surveyors' Association had in hand Other transactions making

for co-operation or unity are the formation of a National Confederation of Employers' Organisations, whose main object is the co-ordination of wages and conditions as between the various industries; the agreement at an "all-in" conference that operatives and employers should co-operate in the endeavour to organise the industry more thoroughly; affiliation of the National Association of Shopfitters; and the endeavour for closer relations with the Scottish Federation. On the same plane is the suggested appointment of official organisers, who, we feel, could do much to consolidate the membership of the Federation. To make such appointments would be to adopt a similar course to that which we have had no hesitation in recommending to the R.I.B.A. Altogether, the report is replete with interest, much of it, as we have seen, more than sectional, and pointing in the direction of that larger federation which shall bring into closer co-operation and more cordial relationship every section and every unit of the industry, professional or practical.

Architectural Education

Premature disclosure of the details of the new scheme for architectural education can only be misleading. Even if the details were accurate in themselves, they might easily lead to misconception of the scheme as a whole. Some of our lay contemporaries, bursting with the news, have created an erroneous impression as to the scope and incidence of the scheme, about which we shall have more to say when it is complete, and when publicity will be advantageous rather than injurious. There is no need to be oracular about it; but any fair account of the scheme must obviously await its completion. Mr. John W. Simpson, the President of the Institute, made authoritative reference to it in the address which he presented to the Institute on February 2, when the prizes and studentships for the year were presented.

A.A. Incorporation

There is a certain piquancy about the Architectural Associations being incorporated under the Companies Act. It is, however, a wise step to take, and its net effect is simply to limit the financial liabilities of the trustees and council of the Association. Without the protection afforded by the Act, it would be, as Mr. Maurice E. Webb said in explaining the objects of the incorporation, increasingly difficult to induce young men to serve on the Council. As for the trustees, it is obvious that their self-sacrificing duties involved considerable financial risk, which will now disappear. It need not be added that there is neither novelty nor degradation in becoming incorporated. Numbers of institutions of comparable character have taken the same wise precaution. A ballot of the members is so certain to show an overwhelming majority in favour that it will be simply a regularising observance.

St. Paul's Bridge Scheme Redivivus

The St. Paul's Bridge scheme was not killed by the war, and it is to be revived in an application to Parliament for an extension of time. It will be remembered that there was an immense amount of controversy, first as to the site of the bridge, and then as to its design. Originally it was intended that the bridge should be wholly an affair of engineering, but at length the Bridge House Estates Committee were prevailed upon to secure as much architectural treatment as a competition in which the premiums were £300, £200, and £100 could be expected to yield. Mr. George Washington Browne, R.S.A., won the first premium with a simple and strong design. As our critic said of it when we reproduced the drawings in our issue of July 1, 1914, "The scheme is distinguished by imagination combined with a commonsense knowledge of the requirements and their best structural expression." Groups of statuary are in the scheme, and these should now be made to serve as war memorials, but, it is to be hoped, not blatant ones. It is understood that the Corporation are fully committed to the scheme by their negotiations for property at the bridgehead sites. Otherwise they might well be daunted by the rise in prices, which changes the original estimate of £1,646,000 to one of four millions sterling.

Builders' Profits—and Losses

At the first weekly meeting of the London County Council after the Christmas recess a member alleged that contractors were making extraordinary profits—in some cases as much as £200 and £250 per house. On what authority this allegation was made does not appear; but it was promptly discredited by Mr. Bernard Holland, Chairman of the Housing Committee, who said that he did not think undue profit was being made by builders in London. The evidence he had was in the opposite direction—they were making "a very bare profit," if any. He might have added that, even before the war, builders sometimes did not even make "a very bare profit" on house-building, but actually realised a loss on it, this occurring not through want of foresight, nor through miscalculation, but from purely fortuitous circumstances. It is a pity that these reckless charges are always so vague. We hold no brief for the builder; but the architect who cannot do without him is interested in everything that relates to him, and likes to see his integrity vindicated when occasion arises.

An "Overseas" Commemoration Building

Following hard on the proposal to spend millions on a Labour war memorial building and a central hall for Freemasons comes the announcement of a project for building a "commemoration building" as a centre for overseas visitors. It is confidently anticipated that the money required—about a million sterling—for materialising the project will be immediately forthcoming. These three great buildings—and possibly there are more to follow—to be added almost simultaneously to London's array may set a new scale and a new fashion in architecture; for they are to mark the greatest event in the history of the Empire—the rallying of her sons at the mother country's urgent call. Surely there could be no more inspiring theme for the architect. Great things are expected from these buildings.

A Professional Union

What are architects going to do about the new professional union that is being formed? It is to be, of course, "undenominational," so to speak—an inept expression used for want of a better to imply that all denominations are included. At present the objects of the union are nebulous, but it is perfectly obvious that such a union, properly managed, could do much valuable work for the country as well as for professional men, who, with further opportunities for fraternising, and for taking an interest in each other's work and ideals, would not only learn to understand each other better, but would be in a much better position both to assert their rights and to develop knowledge and skill in the sciences and the arts they practise and represent. There are of course clubs enough already; but in them all—except perhaps the Rotary—it is a crime to talk shop, unless one's trade happens to be politics. We gather, therefore, that architects would find it worth while to join this union, which should become a sort of focussing screen for professional ideas, or, to put the matter more ambitiously, a clearing house for professional opinion, or a sort of mental Labour Exchange. Free exchange of views and ideas is essential to reconstruction on a sound basis; and the professional union should be of special value to the architect, who of all men ought to hobnob freely with his fellows, because it falls to him more than anyone else to translate the public mind into substantial form.

Architectural Causerie: On Cornices

IT would form a valuable appendix to "The Principles Governing Modern Design" if one of our enterprising authors would collect data on the subject of cornices and crowning features for the exteriors of buildings. Of late too little attention has been paid by architects to the adjustment and proportioning of this important attribute, in regard not only to individual buildings but more especially to projection in relation to the width of certain streets. This is one of the things more clearly understood by our American contemporaries.

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In streets of fair width, where rights of light are not in danger of infringement, the law admits of a crowning cornice being placed eighty feet above the pavement line, and of recent years attempts have been made to induce architects to level the cornice lines of their buildings in order to ensure homogeneity and horizontality in the aspect of dissimilar façades. Where such discipline has been observed, the effect of a run of buildings has been considerably improved; but, notwithstanding, much remains to be achieved in the remodelling of the façades of London if anything approaching the orderly character of the thoroughfares of Paris is desired.

* * * *

Because we English are a nation of shopkeepers we attach more importance to individuality than we do to collectivity. It is a national trait to feign a splendid isolation. Hence the opposition to Wren's scheme for a new London, and the persistence of the troubled citizens, who escaped the Plague and the Fire, to retain ancient sites for their new premises of brick. Tallis reveals, as no other survey does, the aspect of the principal streets from the time of Charles the Comical to the stoutest of the Georges. There are the frontages of fifteen, twenty, thirty, forty, and fifty feet, of varying height, with dissimilar shop fronts, all standing in interminable nonconformity. The critics of the eighteenth century, among whom was the discerning Ralph, had not a good word to say to the assemblage. We of a later day accept the evidence of Tallis, as well as the evidence derived from our own investigation of the remains, that the buildings of the period represent a very fair average of style; and many of us indulge in rhapsodies because we have conjured up a largely imaginary picture of Old London.

* * * *

The truth is undeniable that the streets of London to-day are not so terrible as they are made out to be. The very deformities of the architecture of Cheapside, Oxford-street, and the Strand, when viewed in perspective, coalesce and blend harmoniously; it is all a question of light and shade, colour, silhouette, and individuality. Let it not be imagined that we can accept more than twenty per cent. of the buildings in any of these streets as possessing even the elements of taste. Were it not for the presence of the staid buildings erected by our grandfathers and their fathers before them, the later arrivals would not have a chance of escaping general condemnation. London, being the world's exchange and market place, presents the character of a cosmopolitan bazaar. It includes types of buildings that defy all analysis. There are curious overlappings, reflecting the tendencies of opposite schools of thought, and façades of severe mien stand next to steep gables of Gargantuan proportions. There are buildings with pilasters running through four floors in order to carry a broken pediment which seems to apologise to the dormers for disturbing their repose. There are fronts bristling with bays and bull's-eyes; in some buildings every ledge is crowded with herculean gods and goddesses, or overfed cupids struggle with shields, while prowling lions walk the nine-inch ledge. Yet in the sunlight, when the masses of clouds drive seawards above the cross of St. Paul's and over the grasshopper at the Royal Exchange, all such oddities fit into the nooks and crevices of the artificial scenery of the streets; and were it not for the gigantic lettering, the cheap-jack advertisements and the general untidiness, the effect might pass for occidental splendour, chaotic as it is.

* * * *

Because London has grown old and has never experienced the benefits of early training, nothing can change the character of the old lady. She wears a mantle of patchwork, and looks her best in it. Frontages of twenty feet will remain of that width for ever, unless some enterprising corporation purchases half a dozen adjoining properties in order to erect palatial premises for the West Diddlesex Emporium, or the United Consolidated Coke and Cattle-truck Federation. In these difficulties inheres the chief problem confronting architects of to-day. No other city presents such difficulties. It is almost impossible to speak of comprehensive street design, let alone to await patiently its advent.

* * * *

Apart from the question of style, or of style talk and the exploitation of any particular phase of architecture, of one thing we are convinced, and that is the need for horizontality. Of late the general level of taste in architectural circles has unquestionably improved. Education is beginning to make itself felt; buildings are criticised in the public Press as soon as the scaffolding is removed; and although at present many buildings leave much to be desired, the leaven of common sense is at work, especially among buildings intended primarily for commerce. And thus, through the medium of the foregoing preamble, we come to the discussion of the theory of external cornices.

* * * *

In days of old the cornice, cornica, or corniche, was a species of capping devised to protect the vertical surface of a wall from the wet, and to throw off the rain water from the roof beyond the face of the building. In Italy and Spain, as in India, it became the custom to give the cornice a considerable projection, in order to secure a goodly shadow. As building developed (and very rightly) on the lines of artificiality, both as regards structure and decoration, the cornice as we understand it became merely a crowning feature, the chief use of which was to distinguish a grouping of subordinate attributes. The cornices to the astylar palaces of Florence come under the latter category; and beyond question these excellent productions of the Renaissance in Italy still remain among the chief inventions of that prolific age, for they are modern to a degree. Our American cousins were not slow to observe the distinction a noble cornice affords to a box-like structure; hence the splended adaptations of the Florentine theme to the Tiffany building in New York, as well as to many other works across the Atlantic.

* * * *

Sixty years ago, when the majority of young English architects spent their holidays in Italy, the study of cornices became an obsession. Everybody endeavoured to wrest the secret of the crowning cornice from the stones of Florence, Venice, and Rome. Drawings were made of the modillion cornice to the Palazzo Ruspoli at Rome, the stone console cornice of Pisa, the double faced modillion cornice from the Stamperion at Rome the ornate mouldings crowning the palazzo in the Via Ripetta at Rome, and the cavetto triglyphs of the Colonna in the same city. The result of all this activity can be seen in a few buildings north and south of Cheapside, and some of the blocks forming the south side of Cannon Street.

AERO.

Architecture of the Late 18th Century. 2.—Nelson House, St. Aubyn Street, Devonport

The character that accrues to a front by the judicious application of slate-hanging is clearly shown in this house. Note the generous character of the bow windows, the fluted cornice, and the fanciful porch with its slight "Adam" detail.

The Architecture of St. Neots

THE market town of St. Neots, fifty-six miles from the place where Hick's Hall formerly stood, has a character peculiar to towns and villages on the Great North Road. Curiously enough, the main road avoids the town by two miles, passing through Eaton Socon to the Bishop's Palace at Buckden, and then to Norman Cross. The town is dignified by a magnificent parish church, the tower of which is a landmark for miles, its finials and battlements standing conspicuously about the trees on the banks of the River Ouse. In some respects the perpendicular tower at St. Neots can be compared to that of St. Mary's at Taunton.

In the Market Square at St. Neots there is plenty of evidence to show what a busy place it was in the York to London days, when, for some unaccountable reason, the coaches made a detour from the main road to pass through St. Neots. The hostelry of the Cross Keys received most of the custom then going, and it is likely that a good many University Dons and more undergraduates travelling from Oxford to Cambridge through Dunstable, Ampthill, and St. Neots, stayed at the trim brick façade, or enjoyed a round of beef in one or other of the tubby bay windows. To-day the architecture of the inn remains excellently conserved, and the flavour of the coaching days is recalled by the piquant omnibus sauce.

There is good brickwork of Queen Anne and Georgian fashions in the streets of St. Neots, proving that an industrious company of bricksetters found occupation congenial to their inclinations. Of this body was one John Smith, junior, who died at the age of forty, on January 6, 1745. Possibly John Smith worked on the fine Palladian building in the Market Place, which is distinguished enough in appearance to have attracted the attention of a Burlington. How Burlington would rave could he see the ravages of the Huns below. There is every reason to suspect that the building at the corner of High Street and of the road to St. Ives is contemporary. In both the rakish pediments sit well on the heads of the buildings, like three-cornered hats of the Staines, Egham, and Windsor variety.

For dignity of expression it would be hard to find a better proportioned pair of gate piers than those illustrated, which form an entrance to an old garden at the back of the parish church. (See following page.)

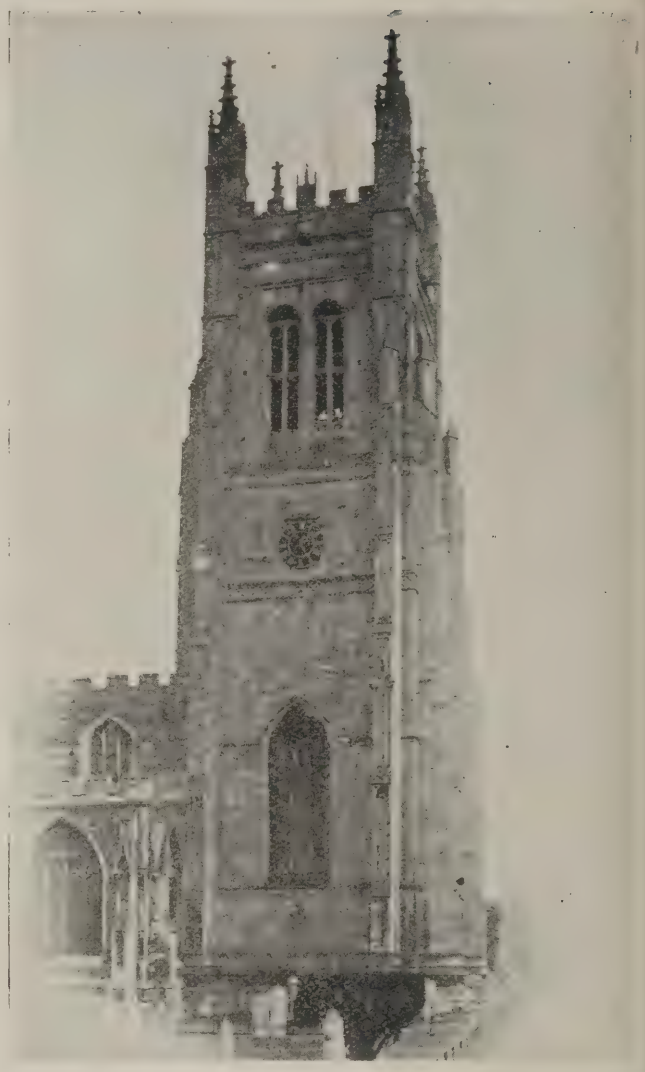
Finally, the plain brick façade of Croxton Park remains to be considered. From a distant view the tiering of the windows is relieved by the roof, which rises above the parapet; but on closer approach this feature disappears, and the visitor is left to appreciate three heights of windows and a remarkably good Ionic portico.

As time passes, we learn to value the merits of Georgian simplicity, the reason of the change of mind implied being the surfeit of ill-considered ornament to which we have been treated for the past twenty-five years. Our Georgian forbears thought just as much of spacious rooms and good windows as some persons in these times think of shoddy decoration. There is in consequence rather a barren look apparent on the fronts of some of the larger houses of the late period, especially those which might be termed "Great Northern," but they have a character entirely their own, and fill many a gap in the country-side.

The plain yet pleasant little buildings of the eighteenth century that still remain to us should be guarded with jealous care: the vandal has already deprived the English country-side of too many of its charms.

HOUSE IN THE MARKET PLACE, ST. NEOTS (1740 PERIOD).

Cross Keys Inn (1725 Period).



The Parish Church.

Gate Piers near Parish Church (1738 Period).

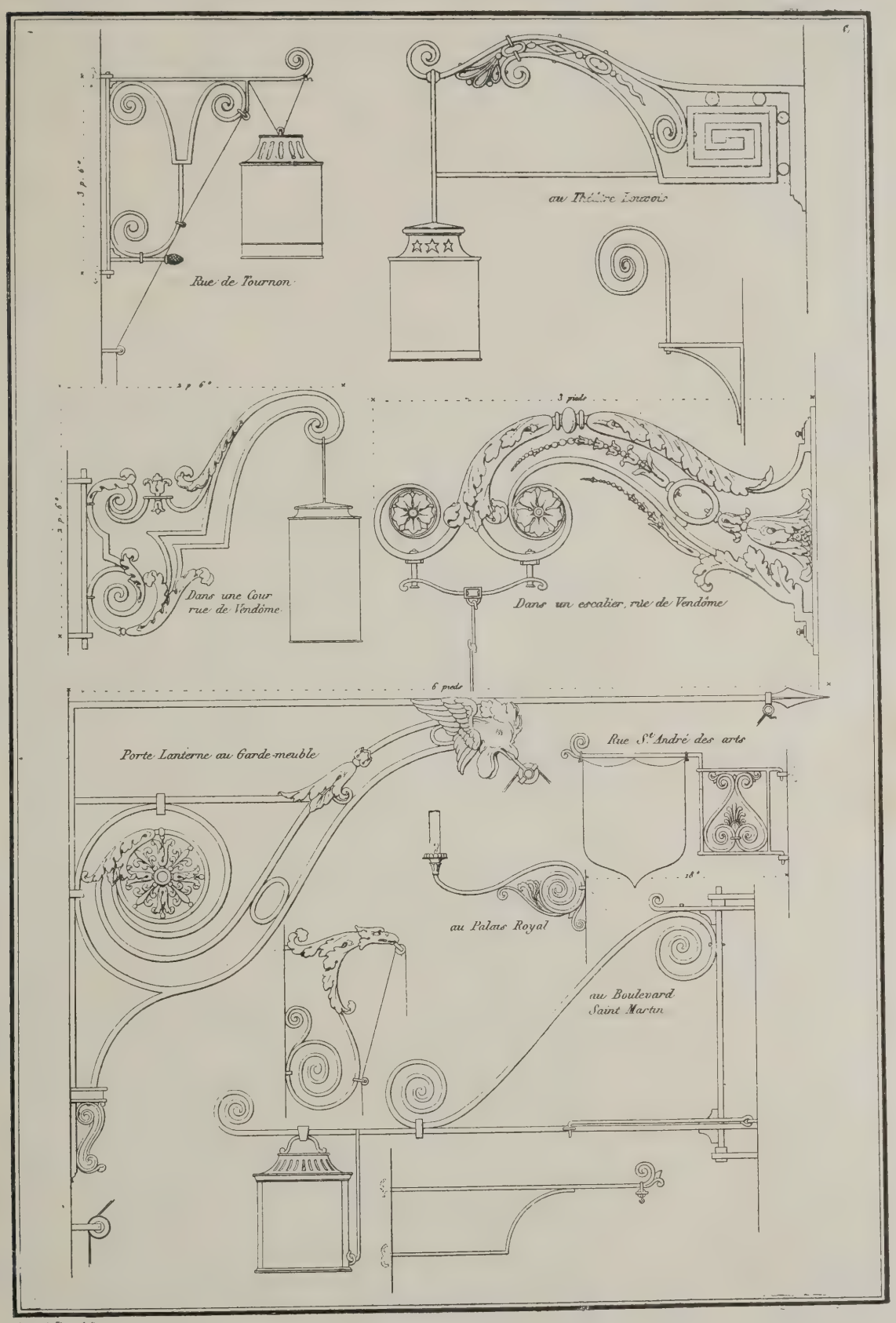
Croxton Park (1790 Period).

House at Corner of High Street.

THE ARCHITECTURE OF ST. NEOTS.

(See article on page 145.)

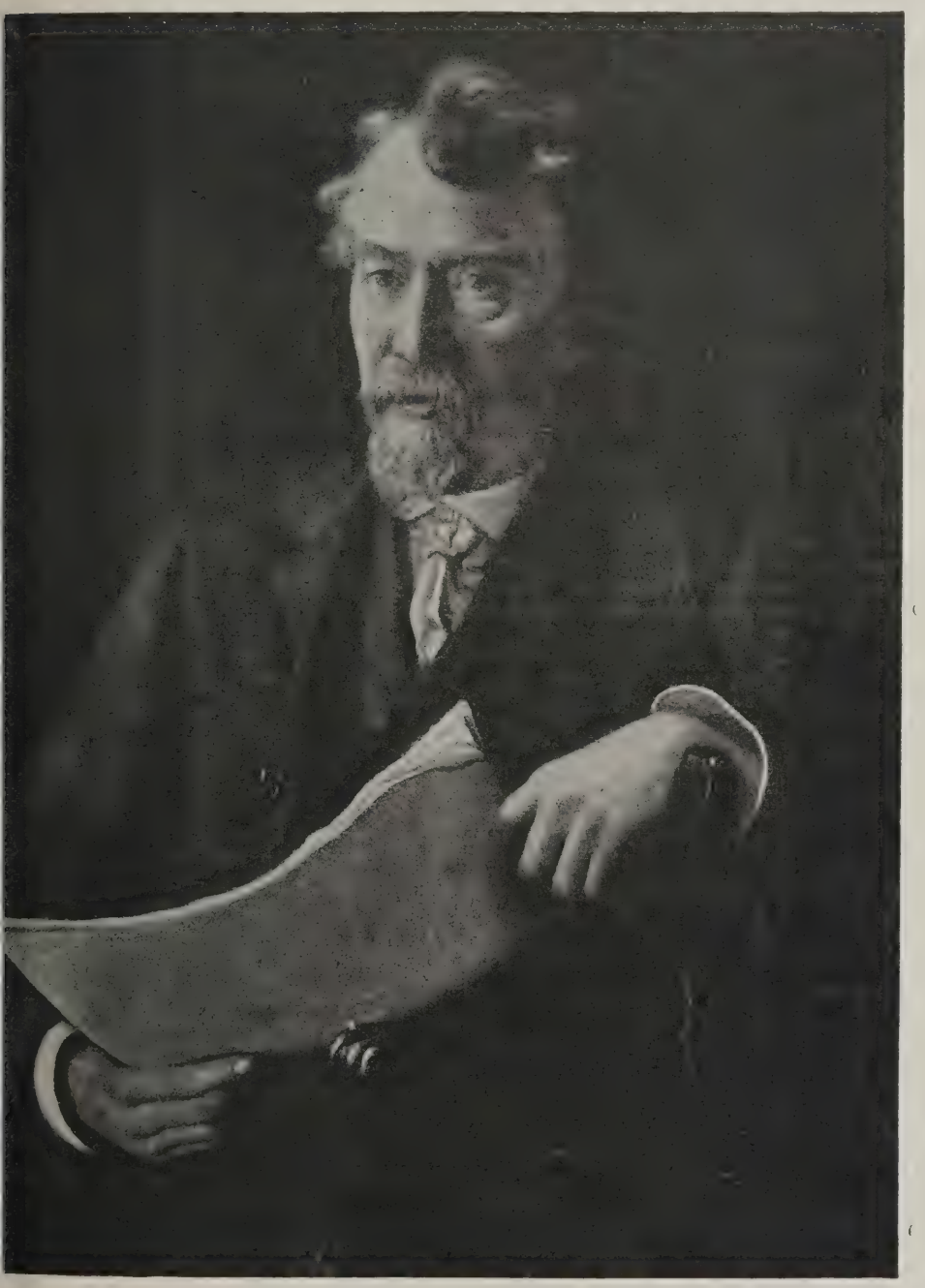
French Metalwork. 4.—Some Wrought-Iron Brackets



The design of the wrought-iron support for projecting signs, lamps, and other features is a problem of interest to architects. In this regard Bury's designs offer many delightful motifs.

Westminster Cathedral and its Architect

IT is seldom that an architect is commemorated by so sumptuous a biography as that which confirms the apotheosis of John Francis Bentley. Consisting of two portly volumes, comprising between them 694 pages, with 160 illustrations, it is a fitting monument to an architect whose greatness is indisputable, and to whom came the greatest opportunity that could fall to the lot of mortal man for the exercise of special talents and for the realisation of long-cherished dreams. Those who will have it that he was born to build Westminster Cathedral could adduce many foreshadowings in support of their case—as his minute observation of all the features, details, and proportions of St. George's Church, Doncaster, of which he was able to make, mainly from memory, a beautiful little cardboard model when the church had been destroyed by fire; his haunting, when a schoolboy, the workshops of the carvers and joiners in the town; his being entrusted by the clerk of the works, when the church was being rebuilt from designs by Sir G. G. Scott, with the setting-out of full-size details and the making of templates for the masons, and even with the measuring up of the foundations for the central tower; his abandonment of his apprenticeship to a London firm of builders—Messrs. Winslow and Holland—to take service with Mr. Henry Clutton, the ecclesiastical architect, who very nearly got the commission to build the cathedral; the fascination that the church work of Northern Italy had for him; his one and only competitive design—that for a proposed church at Heigham—which, made in 1858, showed a church "of Lombardesque type," in red brick with stone banding, with an imposing campanile-like tower—surely a dim presage of the great cathedral, of which the foundation stone was laid on June 29, 1895, thirty-seven years afterwards; the general character of his work, which was mainly ecclesiastical, and the lines on which his character developed during the long interval; the baptism of this Low Church or Evangelical-bred young man into the Catholic Church (on April 16, 1862, when John became John Francis)—these were so many steps towards the great consummation, the building of Westminster Cathedral.



JOHN FRANCIS BENTLEY.

(From a portrait by René de l'Hôpital.)

To the cathedral the author devotes an entire volume, most of it descriptive and architectural, giving a very clear idea of the inception, planning, and construction of the cathedral; the difficulties of finding a site and of raising the necessary funds; the trials that beset the architect, and how he triumphed over them. Cardinal Vaughan, who was the energising spirit in the movement to found a great metropolitan cathedral for his communion, was at first minded to hold a limited competition, but abandoned that purpose on hearing that Bentley hated competition and would not take part. The Cardinal consulted the leading British architects on what had best be done. "When asked personally and individually to name the member of their profession best fitted to be entrusted with the building of the cathedral they gave the palm with generous unanimity to John Francis Bentley." The Cardinal, calling at Bentley's office to offer him the work, said in reply to the architect's stammering thanks, "You are not to thank *me;* it is your fellow-architects you have to thank!"

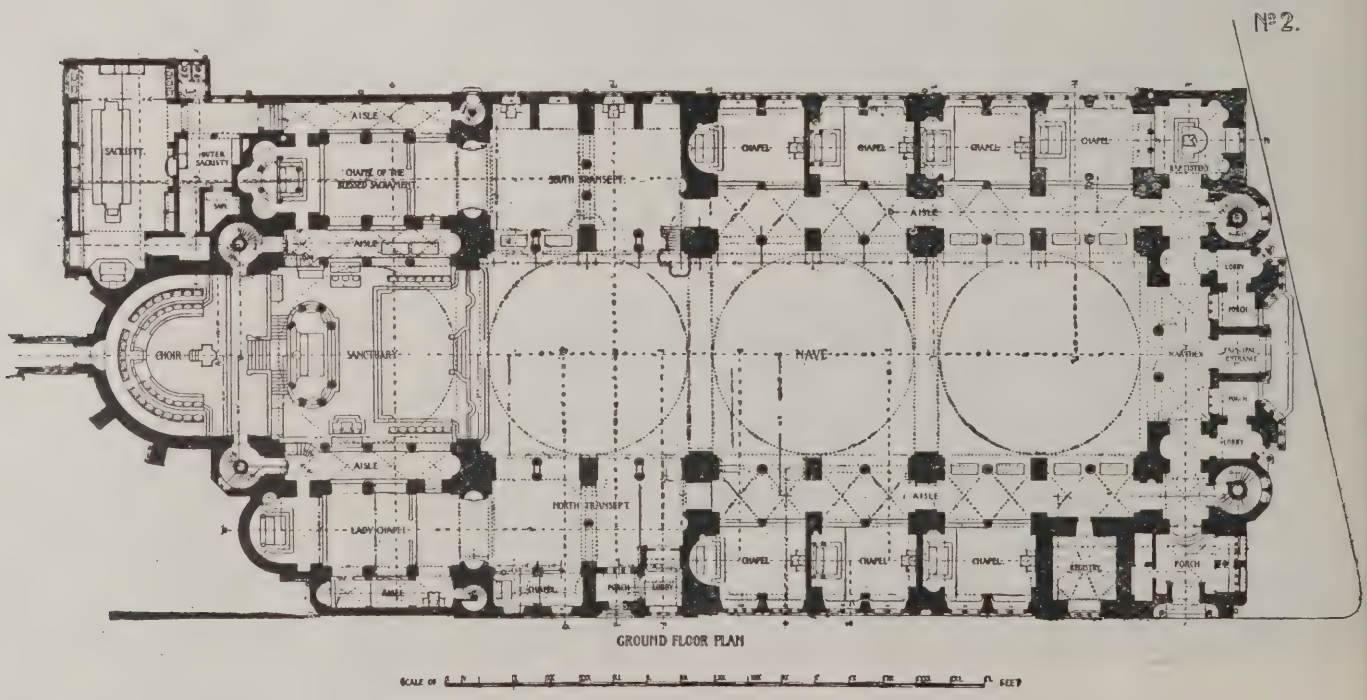
Before the architect was selected it was decided that the cathedral should be built in Byzantine style. "Personally," Bentley is reported as saying, "I should have preferred a Gothic church; yet, on consideration, I am inclined to think that the Cardinal was right." But he could not agree with the Cardinal's wish for a basilica church of the Italian type, and ultimately persuaded His Eminence to adopt the Christian Byzantine style. There ensued tremendous opposition from the Gothicists, who denounced Byzantine as "un-English" and Bentley as a recreant Goth. But Bentley, as we have seen, had long had a decided leaning to Byzantine; and "as far back as the early 'sixties the study of Byzantine work was no new thing to him; his early designs for decoration, glass, church plate, and so on, were influenced by it to some degree, and he was enthusiastic also about the Romanesque architecture of Burgundy and Provence, of the Rhine and of North Italy. The opportunity to develop its possibilities had heretofore been wanting, and at first it was not entirely welcome when it came." To the "un-English" objection the reply is adroitly flattering to the national pride. "Certainly," Mrs. de l'Hôpital writes, "as London had long been in the world of commerce what Constantinople once was, and in the world of Empire held the place that Rome once filled, it would seem fitting that the cathedral of the world-metropolis should be of a type rather international than limited by any national and perhaps insular characteristics of style."

And so that his Byzantine should not be

Photo: Cyril Ellis.

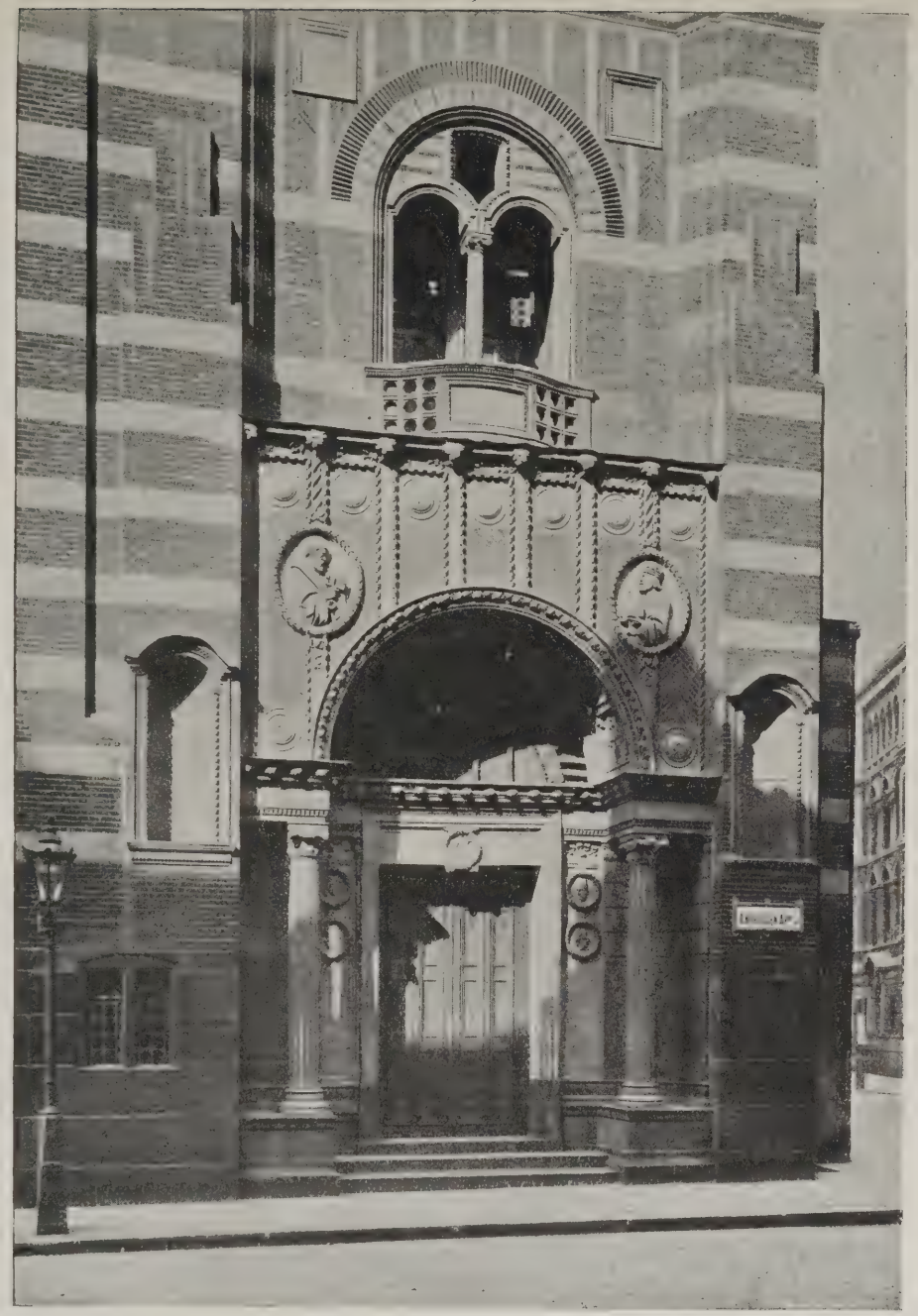
THE THRONE ROOM, ARCHBISHOP'S HOUSE, WESTMINSTER CATHEDRAL.

purely insular Bentley "decided to study his subject at first hand in Italy and Constantinople before setting to work on the cathedral plans." In November, 1894, he set out on his tour. At Milan he was sore put to it to refrain from criticising severely the profusely ornate German Gothic of the Duomo; but he was greatly interested in the brick-built church of Sant' Ambrogio, which, having a lofty brick campanile of ninth-century construction, was the first building of its type he had ever beheld. At Pavia he was struck by the Certosà, at Pisa by the cathedral. The Duomo at Florence he thought "architecturally the worst large building I have ever seen." Reaching Rome in the middle of December, he put up at a large hotel where, he said, "I was nothing but a number in that huge caravanserai, and that means of identification being 666, the 'Number of the Beast' was altogether more than I could stand!" In Rome he met G. A. Sala, who found that a dinner-jacket was not in conformity with the strict etiquette of the Vatican—the guards refusing him admission to the Pope's early Mass—took

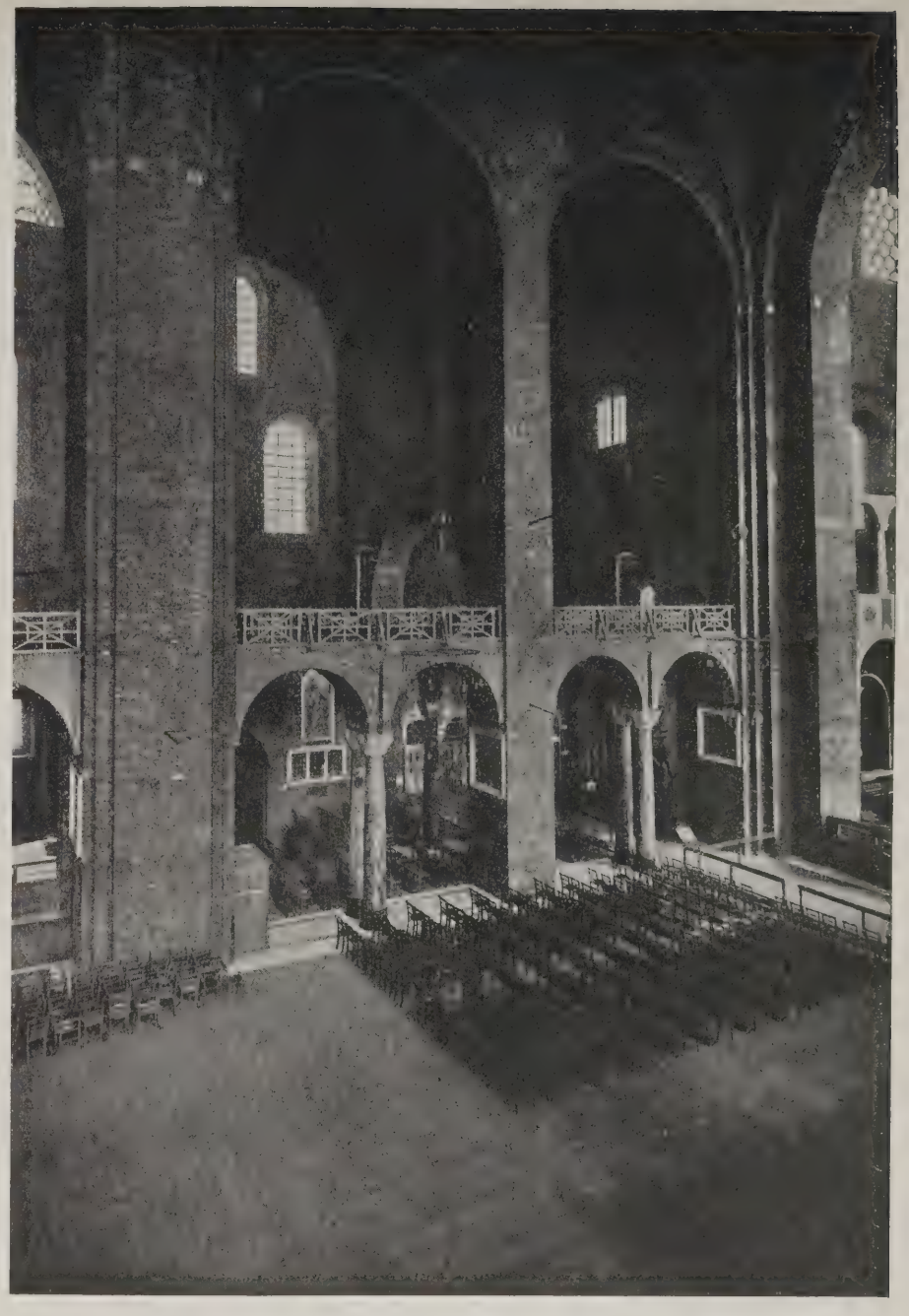


GROUND FLOOR PLAN OF WESTMINSTER CATHEDRAL. THE LATE J. F. BENTLEY, ARCHITECT.

The late J. F. Bentley, Architect



North-west Porch.



North Transept. *Photos: Cyril Ellis.*

The above illustrations—one showing a superb detail of the exterior and the other the impressive internal scale of Bentley's Westminster Cathedral—are from the recently published book on the architect and his work, by Mrs. Winefride de l'Hôpital, of which a review appears in this issue.

Bentley's advice to 'borrow a dress-coat from the proprietor of his hotel. Of St. Peter's Bentley wrote: "I venerate the place more than I can say, and my only regret is that the human part of it is not more worthy of so august a purpose. Architecturally, I think it the worst large building I have seen, excepting, perhaps, the Duomo at Florence, and I cannot conceive that any architect can 'sing its praises.' Of course, the effect is fine, very fine, but produced at the sacrifice of scale." His reverential emotions did not overwhelm his power of criticism. St. Paul's-outside-the-walls he thought absolutely the worst building he had ever seen —worse even than the Duomo at Florence; and Italian detail he maligned as "the most thoughtless, brainless stuff."

From Rome he went to Perugia, Umbria, and the Ravenna district, and thence to Venice, where, of course, he made a careful study of St. Mark's. Reluctantly abandoning his projected visit to Constantinople, he left Venice on March 7, spending a short time at Turin and a few days in Paris on his way to London, which he reached on March 19, primed with ideas for his great work. He "returned from Italy steeped in Byzantine art, without any sketches or written notes: it was never his habit to make either; nevertheless he brought back, clear and definite in his mind's eye, a vivid presentment of the cathedral he meant to build." What follows this citation is a very interesting revelation: "All through life he had taken pains to cultivate to a remarkable degree this gift of interior vision, never setting pencil to paper till his subject had arrived at complete mental development. 'Everything,' he would say, 'the reality as though before me solidly—light and shade, colour, all is there—and not until I see this in its entirety do I ever begin to draw.'"

Architects necessarily have, in a greater or less degree, the power of visualisation, and it can be cultivated, but not often to the high pitch to which Bentley had brought it. This habit of his deprives us of any of the rough sketches that, like Turner's "Liber Studiorum," serve to show by what tentative processes the author arrives at his results. We get, however, a large number of photographic illustrations of the finished work, as well as a description, in full detail, of the building and its appurtenances—an account written with such clearness that architect and non-architect will alike enjoy reading it. In the second volume we get a biography of Bentley—"a fellow of infinite wit, with a charming manner and a lovable and attractive personality which surrounded him with friends"—with an account of his minor works of art, his early ecclesiastical commissions, his domestic architecture, his essays in stained glass design, mosaic, metal-work, furniture and textiles, monuments and memorials, and his restorations of ancient churches. For Bentley was the Compleat Architect; and he touched nothing that he did not adorn. This account of him and of his work, written with intimate knowledge, but without effusion—indeed, with marked detachment and delicate restraint—proves that we have had in our midst—perhaps without realising it very clearly—one of the greatest architects of all time, as well as one of the best of men. The book is a most valuable addition to the literature of architecture. To say that it is worthy of its subject is to give it the highest possible praise.

"Westminster Cathedral and its Architect." By Winefride de l'Hôpital. With 160 illustrations. In 2 volumes. Price £3 3s. net. London: Hutchinson & Co., Paternoster Row.

Construction 5.—A Guncotton Factory

THE gun-cotton factory described and illustrated in this issue was remodelled and enlarged from a pre-war factory having about a tenth of the present output. The acid side is the main part retained from the former establishment, and some smaller buildings and the steam plant were incorporated in the new scheme, which accounts for the somewhat scattered positions of the buildings. But it was a dominating idea that the larger the number of old buildings incorporated the quicker would be the erection of the complete factory.

Before proceeding to a consideration of the construction of the buildings it may be explained that the manufacture of gun-cotton consists of immersing clean cotton waste in a mixture of nitric and sulphuric acids, washing and boiling the nitrated cotton, beating the mass into a slurry, extracting the bulk of the water with a hydro, and finally packing the damp gun-cotton for transportation to the filling factories.

At the entrance to the site are the general office and timekeeper's office. The weighing-bridge and weighing-room are adjacent, and stores are provided for various goods.

An isolated building was altered and adapted as a laboratory. The whole of the interior of this building was finished in white enamel and equipped with the usual fittings for the testing of the raw and finished cotton, and for other work incidental to the manufacture of explosives.

Upon arrival at the factory the raw cotton is taken to the cotton store. This building, together with the buildings now used for the hand-picking, teasing, and willowing, Petrie dryer, cotton weighing-room, and weighed cotton store, already existed upon the site, so the best use had to be made of them.

The cotton store building is constructed of timber and corrugated iron, with 4-in. by 3-in. plates and uprights and 4-in. by 2-in. studding for the sides and ends. Side lights are provided, and the floor is formed of concrete rendered with 1-in. cement. There is a covered way between the cotton store and the hand-picking room. The cotton bales are opened in the latter room, and the compressed cotton is loosened by hand ready to be conveyed to the teasing and willowing room. After passing through the teasing machine, which tears the cotton into small pieces, it enters the willowing machine, which removes the fluff, and then passes through the drying machine to the weighing room, where the dry cotton is weighed and placed in air-tight portable bins, which are then transferred to the cotton store until required for nitrating.

It is essential that in the above-mentioned rooms no dirt or dust shall come in contact with the cotton—in fact, this applies to the whole process of manufacture. As the cotton from the hand-picking room to the weighed cotton store is in contact with the floor for the greater part of the time it is necessary to form the flooring of some material that is dry, free from dirt, and hard. It was found that gritless asphalt was most suitable, and for about 6 ft. above the floor the walls were rendered in neat Portland cement brought to a smooth surface and painted. Portland cement was used because of its hardness, thus minimising the risk of particles becoming detached through chipping and other causes, and getting into the cotton.

Top lighting is introduced as much as possible. The roofs over the machines and dryer are provided with louvres for ventilation, and to assist the escape of cotton fluff, a large quantity of which accumulates in time. It was advisable, therefore, to have the walls and ceilings as smooth as possible, all angles etc., being rounded and projections reduced to a minimum.

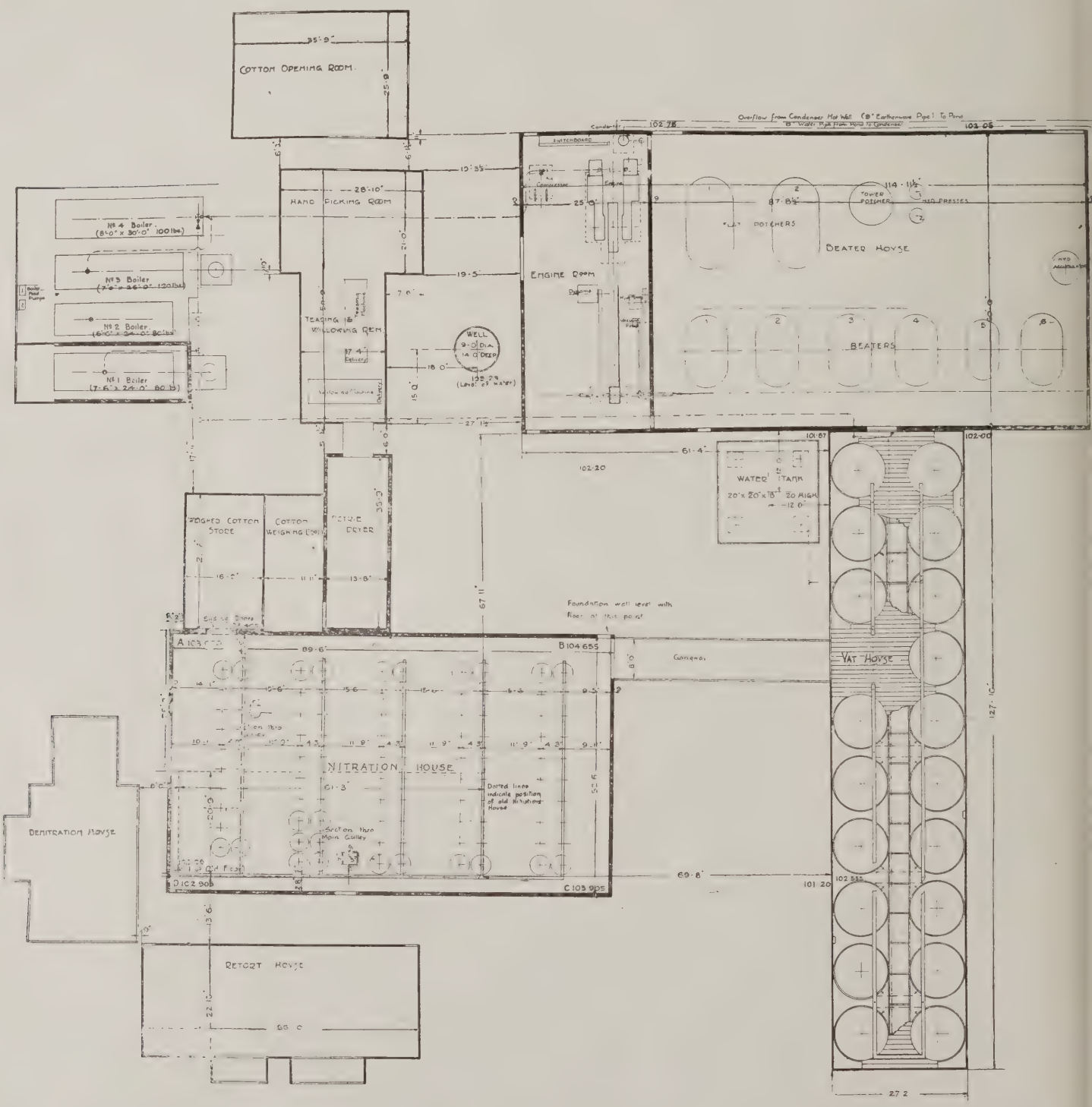
The nitrating house is a building 90 ft. long, 54 ft. wide, and 12 ft high to the underside of the tie beams. It is constructed of timber covered with asbestos corrugated sheeting, painted externally with a dark, and internally with a light, acid-resisting paint. The floor is of concrete rendered in cement with a general fall to one corner of the building, at which point an outlet is provided for the water used in washing down the floor and for other purposes. The walls are constructed with two 9-in. by 3-in. timbers bolted together as uprights, coming under the roof trusses, with 9-in. by 3-in. top and bottom plates, and 4-in. by 2-in. bracing and filling pieces, the framing resting upon a concrete foundation wall carried up to the floor level. The roof trusses are of 52-ft. 6-in. span, and are constructed with two 11-in. by 2-in. timbers bolted together with broken joints to form the tie beam, it being impossible to obtain 11-in. by 4-in. timbers in one length of 54 ft. For the principal rafters and straining beams 11-in. by 4-in. timbers were used, 6-in. by 4-in. for struts, and 11-in. by 4-in. for queen posts (these posts are carried up to form the sides for the louvres, and take the rafters of the roof). At the apex the rafters were supported by a strut resting on the straining beam. The purlins are 7-in. by 2½-in., and to them the asbestos corrugated sheets forming the roof covering are screwed direct. The roof lights are constructed with patent glazing; the lead-covered glazing bars form a perfect protection against the acid fumes arising from the nitrating pans. Lead flashings were dispensed with, the lower louvre board being carried about 2 in. over the top of the glass, and the lower edge of the glazing carried a similar distance over the asbestos sheeting. This proved in every way satisfactory, quicker in execution, and less costly. The trusses were secured to the uprights with two 7½-in. by 2½-in. braces halved to the various members and bolted together; three 1-in. iron bolts were used, together with the usual iron straps to brace the various members together. The main portion of each truss was framed together on a staging level with the top

plates of the walls, then hoisted upright and placed into position. In the end walls of the building the main uprights were carried from the bottom plate to the underside of the verges, thus making one solid framing. In some buildings of this type the top wall plate is carried at one level all round, the ends being formed by placing a truss on same; but in the present case this method was not adopted.

The nitrating house is connected with the vat house by a sloping covered gangway, 8 ft. high and 8 ft. wide. The sides and roof have corrugated asbestos sheeting secured to the wood framing and rafters, the upper portion of the sides being glazed with obscure glass. At the nitrating house end of the gangway provision is made for storing the overshoes which are used before the worker proceeds to the vat-house. The flooring to the gangway was composed of 11-in. by 2-in. wrot deal planks secured to 4-in. by 3-in. joists on 4-in. by 3.in bearers.

From the vat house the cotton, after the process of boiling, is removed in trucks to the beater house. This, with engine room adjoining, is a building about 115 ft. long, 60 ft. wide, 14 ft. high. In construction it is similar to the nitrating house, with the exception of the roof. The floor is of concrete laid and brought to a smooth surface in the one operation; it is also arranged to falls for the purpose of carrying away the water discharged from the beaters. The roof trusses, which are of 60 ft. span, were constructed with two 11 in. by 2 in. timbers bolted together to form the tie beam, 11 in. by 4 in. principal rafters and straining beam, halved and bolted at angles, 6 in. by 4 in. struts, and $1\frac{1}{4}$ in. king and queen bolts, and 1 in. princess bolts. The upper portion of the truss is formed with 7 in. by $2\frac{1}{2}$ in. uprights, 4 in. by 2 in. struts, and 11 in. by $2\frac{1}{2}$ in. rafters, the latter being raised above the level of the principal rafter to allow the roof covering to overlap the glass, which in turn overlaps the roof covering at the lower level, thus dispensing with lead flashing. The roof and sides of this building are covered with corrugated iron. The tie beams are connected together with three $1\frac{1}{4}$-in. iron rods to prevent any lateral motion. The trusses were given a camber of 3 in. but it was found, when tested some time after, that they practically retained this camber, although the roof had been subjected to violent gales; mortising, tenoning, and complicated joists had thus been dispensed with. It was found that timber of certain scantlings was more easily obtained than other sizes, and this explains why 2 in. by 4 in., 3 in. by 4 in., 3 in. by 9 in., and $2\frac{1}{2}$ in. by 7 in. timbers were used as much as possible.

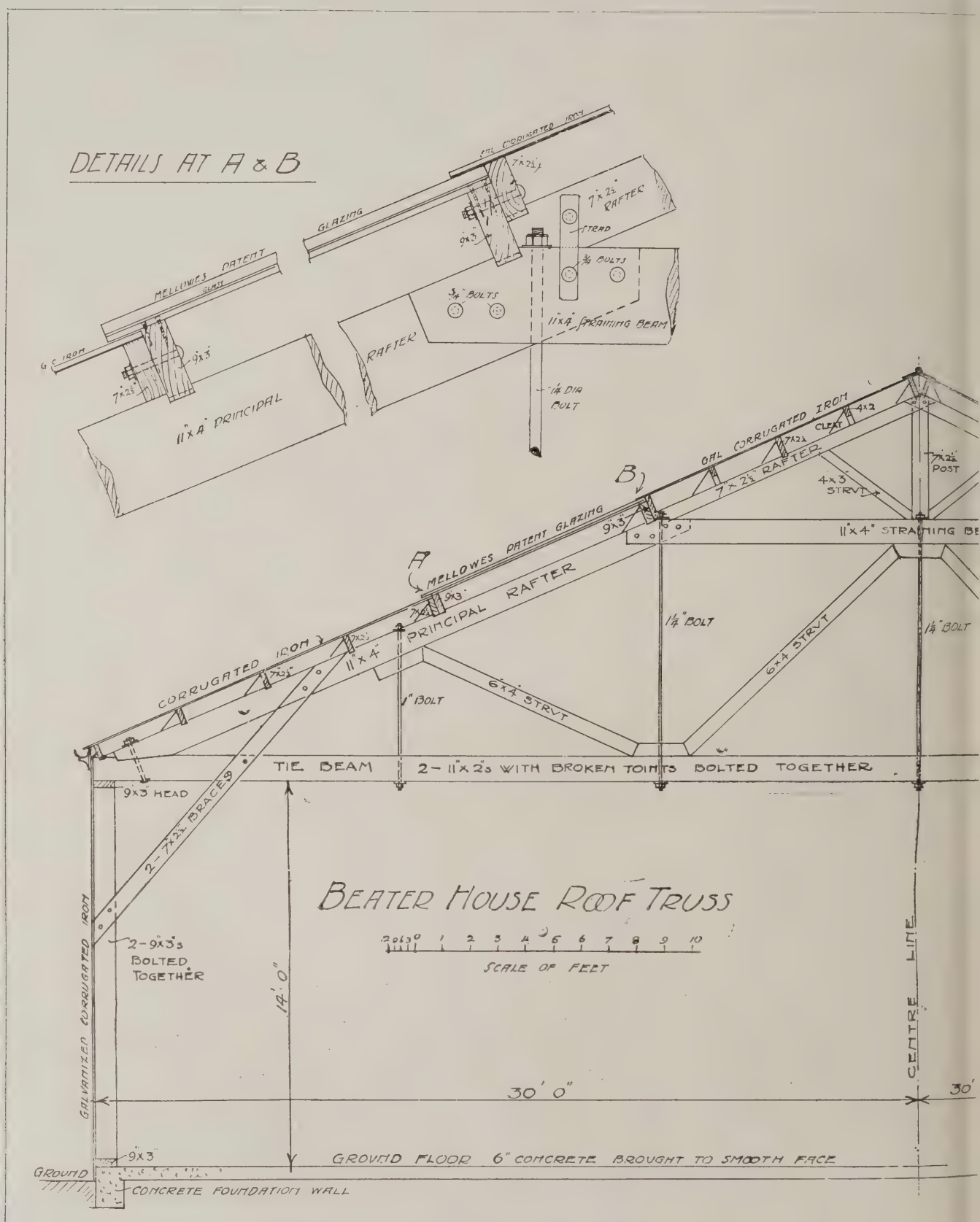
(To be concluded.)



GUNCOTTON FACTORY AT COLNBROOK, BERKS: GENERAL PLAN. H. V. MILNES EMERSON, A.R.I.B.A., ARCHITECT.

Guncotton Factory at Colnbr

H. V. Milnes Em

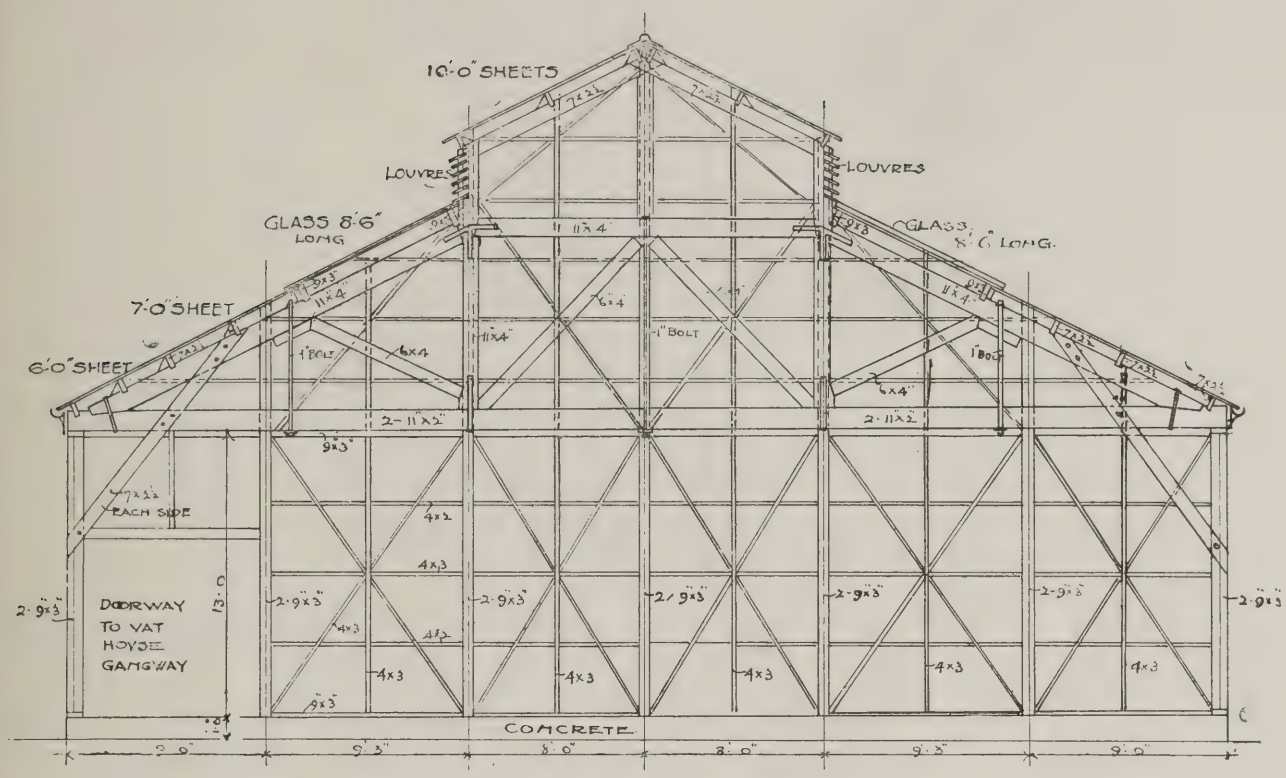


The Beater House Roof Truss.

The beater house, with the engine room, is a building about 115 ft. long, 60
high to the underside of the tie beams. The constructi

Berks : Details of Construction

A.R.I.B.A., Architect



Section through Nitration House

View in Engine Room and Beater House.

nd 14 ft. high. The nitration house is 90 ft. long, 52 ft. 6 ins. wide, and 13 ft.
i is fully described in the article which begins on page 153.

Incorporation of the Architectural Association

A SPECIAL general meeting of the Architectural Association has been held at 34, Bedford Square, London, under the chairmanship of the president, Mr. Maurice E. Webb. After fifty-eight nominations for membership were placed before the meeting, the sixty new members who had been nominated at the previous meeting were elected.

The President explained that the meeting had been called for the purpose of bringing before members the Council's proposals for incorporating the Association, and he proposed that the following resolutions should be adopted:

(1) That the Architectural Association become incorporated under the Companies Act in accordance with the memorandum and articles of association laid before this meeting, subject to such modifications as the Council may deem necessary and desirable, and that steps be taken to carry this out as soon as possible after a ballot of members has been taken.

(2) That the articles be so drafted as to allow of women members of the Association.

(3) That the Council be empowered to complete all details of the incorporation with the assistance of their legal advisers, and be requested to bring before the members such alterations in the by-laws as may be necessary.

He explained that incorporation placed in many ways the Association on a much more satisfactory basis than at present. It would relieve members of the Council from personal liability, and would also do away with the necessity of trustees, who had also accepted liabilities on behalf of the Association in the past. The trustees were Messrs. Arnold Mitchell, G. H. Fellowes Prynne, W. H. Seth Smith, and Henry T. Hare, and to these gentlemen the Association owed a debt of gratitude for the assistance they had given, and for accepting responsibilities from which the Council felt they should now be relieved. The action the Council were proposing should be taken did not by any means signify that the Association was a dying body. On the contrary, a new era was opening for the Association, and its normal activities, which had ceased during the war, were reviving to a greater extent than ever.

The alterations to the premises at Bedford Square, which were nearing completion, would provide an opportunity for giving members advantages which the Association had never before been able to do on anything like the same scale. The school was in an extremely flourishing condition, and although the new studios were completed, it was found to be of the greatest difficulty to house the large number of students in the schools. It was now hoped to do more for the general members of the Association, and he was glad to be able to announce that as soon as the premises were ready, a dining-room, reading-rooms, and smoking-room would be at their service. The Association would develop into an Architects' Club, and he hoped that it would result in a large increase in the membership, for by that means funds would be obtained to carry on the work of education. To the older architects he would say, "You should join the Association in order to help the younger men," to the younger men "That they should join because the Association could provide advantages which they could not obtain elsewhere." The Association was the centre for the younger men of the profession, and he considered that anyone entering the profession should make it his first duty to become a member. He did not think it was sufficiently realised how great a help the A.A. was to those who cared to take advantage of it. Apart from its schools, which were, of course, its most important undertaking, the A.A. did much for architectural education by holding exhibitions, meetings, and visits to various buildings. Then there was the social side which was by no means unimportant. The many clubs it had—athletic, debating, sketching, and photographic—all provided opportunities for the members to make friends in the profession and also to develop their talents in such a way as to help them in their future careers.

He felt he was justified in referring, with a certain amount of pride, to what the A.A. had done for the profession during the war. In the first place it opened a war service bureau, which was responsible for placing upwards of 2,000 members of the architectural profession and building trades in the Army, in positions where their special qualifications were of service. Six hundred A.A. members joined the Colours. An Active Service Committee was formed under the direction of Mrs. Gervase Bailey and Mrs. Maurice E. Webb. This committee collected no less than £778, and with this money provided comforts to members of the architectural profession who were on active service. The A.A. had its own Red Cross detachment from 1915 to 1919, with an average membership of seventy. This detachment did a considerable amount of work in connection with hospitals and air raid duties, and also in the transport of wounded, and purchased an ambulance for its own use from the funds which it collected.

A drawing office was opened in 1914 for disabled soldiers who were not able to take up permanent employment, and in this office, in addition to other work, a very considerable amount was done for the Air Board. The fact that £665 was paid in salaries would indicate the extent of the drawing office activities. At the end of the war the Association undertook the work of the Architects' Demobilisation Committee, and obtained the demobilisation of, roughly, 800 architects in the first two months after the armistice. It also obtained positions for 240 architects' assistants on demobilisation. This tended to show that the Association was alive to the needs of its members, and he felt that his appeal for new members would not be in vain.

He had pleasure in announcing that it was proposed to hold a dinner on the A.A. premises on March 19, when the Right Hon. H. A. Fisher, President of the Board of Education, had consented to attend as the chief guest. The Presidents of the Royal Academy and the R.I.B.A. had also signified their intention to attend, and it was hoped that all the other architectural schools would be represented. In the following week there was to be a conversazione or "house-warming," and a dance for the younger members, and after this the premises would be thrown open as a general club. Referring to the resolutions which he now proposed to put before the meeting, he explained that in order to comply with the legal requirements, a ballot of members would be taken by post. Mr. Stanley Hemp seconded the first resolution, and was supported by Mr. G. H. Fellowes Prynne and Mr. Arnold Mitchell. Both Mr. Prynne and Mr. Mitchell congratulated the Association on its success, and urged all architects in London to join the Association, and particularly the younger men.

The second resolution was supported by Mr. Gilbert Scott, Mr. Knight Thomas, and Mr. H. M. Fletcher, who stated that although women were admitted to the schools during his term of office as president, and the question of their admission to membership of the Association was discussed, it was felt that as the majority of members of the Association were away in the war, it would be better to leave this matter over until their return.

The third resolution was seconded by Mr. Ralph Knott.

The resolutions were put to the meeting and carried unanimously.

Mr. H. M. Fletcher proposed that a vote of thanks be accorded to the retiring trustees for their services to the Association in the past, and was supported by Mr. Ralph Knott and Mr. Francis Hooper, who as a past treasurer testified to their indebtedness to the gentlemen who were now retiring from the office they had held for so many years.

The vote of thanks was carried unanimously.

The President then stated that he wished the meeting to discuss a proposed memorial to members of the Association who had fallen in the war, who he deeply regretted to state numbered ninety-four. A proposal had already been put forward which was that the memorial should take the form of a library, with a tablet commemorating the names of those who had been killed, and a design had been prepared by Mr. Robert Atkinson. He felt that unless other suggestions were forthcoming, the memorial could not take a better form than that proposed, and that there would be no difficulty in collecting from those interested the amount needed to carry out the scheme.

The proposal was seconded by Mr. E. Stanley Hall, hon. secretary, and agreed to. The President announced that an appeal would shortly be issued.

New Members.

Following is the list of newly-elected Members of the Association: H. Collins, R. K. Stevenson, W. P. Wynne-Williams, L. S. Sullivan, R. E. Enthoven, F. H. Wilkes, P. S. Cane, A. M. Bartley, H. C. Grierson, C. H. Finch, S. Natusch, A. W. Thomas, I. L. Orr-Ewing, A. A. Tutte, S. Aziz Ali, S. P. Bhiwandker, H. Burleigh, J. M. Easton, the Hon. H. Pakington, Thomas Wills, J. F. E. Leon, A. A. Williams, H. A. Scott, P. V. Burnett, S. L. Blackburne, G. T. Harman, V. Gluckstein, E. A. Mitchell, C. J. Cable, C. S. White, F. B. Hooper, H. C. Low, F. H. Field, H. Braddock, E. U. Channon, A. P. Woodington, M. P. H. Harris, R. G. Vergette, W. W. Wood, K. D. P. Murray, L. G. Jackson, L. J. Bathurst, C. W. Kennedy, A. C. Jones, H. A. Matthews, N. D. Quick, A. S. Knott, G. W. Silk, J. S. Broadbent, S. C. Kirby, E. R. Silver, R. J. Troup, A. Snell, W. D. G. Woodcock, C. W. Fowler, G. A. Gale, H. Clarke, A. C. Parnacott, W. H. Craig, G. M. Ellwood.

The Housing Grants to Builders

The Ministry of Health have issued details with regard to the grants to be made to private persons or bodies of persons constructing houses under the Housing (Additional Powers) Act, 1919. The grants will be made by the Minister to persons who construct houses in accordance with the Ministry's conditions, and who begin the construction of the houses within twelve months from December 23, 1919, and who complete them within that period or a further period not exceeding four months as the Minister may in any special case allow. No grant can be made in the case of any house the construction of which was begun before the passing of the Act. The total amount of grants to be paid for the United Kingdom will not exceed £15,000,000, and should the number of applications received by the Minister give rise to the expectation that the total sum available for England and Wales will be exceeded, it will, of course, be necessary to take steps to secure that an undue proportion of the total amount is not distributed to a particular area.

The amount of grant payable in the case of houses completed within twelve months of the passing of the Act as above will be: (a) In respect of houses containing living-room, parlour, and three or four bedrooms, and comprising not less than 920 ft. super of floor area, £160 per house; (b) in respect of houses containing living-room and three bedrooms, and comprising not less than 780 ft. super of floor area, £140 per house; (c) in respect of houses containing living-room and two bedrooms, and comprising not less than 700 ft. super of floor area, £130 per house. No grant will be made in respect of any house with more than four bedrooms, or which has a superficial floor area in excess of 1,400 ft. The floor areas will be measured by taking the combined areas of both storeys measured within the external or containing walls of the house. A cellar shall not be taken into account, but an attic bedroom may.

Flatted cottages of not more than two storeys may, subject to the express sanction of the Minister, be permitted to rank for grant in areas where there is a demand for accommodation of this kind, and each flat complying with the conditions as to floor space and accommodation will be treated as one house. The number of two-bedroom houses in any district in respect of which a grant will be made shall not, without the express sanction of the Minister, exceed 5 per cent. of the total number of houses for which grant will be payable. If a form of construction is employed for which, in the case of a local authority's scheme, the Ministry would not sanction a loan for a period exceeding forty years, the amount of grant per house will be reduced by one-third.

In the case of any house begun within twelve months after the passing of the Act but not certified by the authorised officer of the local authority to have been completed fit for occupation within that period, no grant can be made unless the house is completed within sixteen months after the passing of the Act, and then only if the Minister in any special case allows such payment. If in such a case the Minister allows a grant, the grant (unless the Minister is satisfied that the failure to complete the house within twelve months after the passing of the Act is due to circumstances over which the person constructing the house had no control) will be proportionately reduced, i.e.: (a) If the house is completed in the thirteenth month after the passing of the Act, a reduction of one-twelfth of the appropriate figure in paragraph 2 above; (b) if completed in the fourteenth month, a reduction of two-twelfths; (c) if completed in the fifteenth month, a reduction of three-twelfths; (d) if completed in the sixteenth month, a reduction of four-twelfths.

Plans shall be submitted to the local authority of the district in which it is proposed to erect the house or houses, in the form required by the bylaws (if any) in force with regard to new streets and buildings, or by any local Act. In every case, whether bylaws are in force or not, there shall be submitted to the local authority by the person, or persons, proposing to construct the houses: (a) a block plan in duplicate drawn to a scale of 1-500 showing the lay-out, roads and sewers; (b) complete plans and sections in duplicate of the proposed house or houses drawn to a scale of not less than 8 ft. to 1 in.; (c) where the houses are to be built of brick or stone, an undertaking in writing that the standard of construction will be in accordance with that specified by the Ministry or is equivalent thereto; and (d) where some other form of construction approved by the Ministry is proposed, a description of the method to be adopted and an undertaking that the form of construction will be carried out strictly in the form approved by the Ministry, and that the standard of construction will comply with the conditions so far as they are applicable.

On receipt of the plans and undertaking and descriptive note, the local authority shall cause them to be examined and, subject to the compliance of the plans with the conditions, shall issue a certificate, accompanied by one set of the plans and sections marked with their approval. If any dispute arises as to the approval of plans or methods of construction, the question shall be referred to the housing commissioner of the region in which the houses are proposed to be erected for decision.

When the houses have been completed the person constructing the houses shall apply to the local authority for a certificate that they have been completed in a proper and workmanlike manner, and the local authority shall cause the houses to be examined and issue a certificate. If the local authority refuse or neglect to grant such a certificate appeal may be made to the Minister.

When any person or body of persons constructing houses has received both the certificates, he shall forward each of the original certificates, together with a written application, made on the back of the second certificate, for the money to which he claims to be entitled, to the Secretary, Ministry of Health, Whitehall, London, S.W.1. The Minister, when satisfied as to the correctness of the application, will pay the amount due.

In the Administrative County of London the existing jurisdiction of the London County Council, the District Surveyors, the Common Council of the City, and the Metropolitan Borough Councils with regard to buildings will remain in force in so far as such jurisdiction is not inconsistent with the conditions, and consequently the existing procedure will remain unaltered as regards the submission of plans and other matters. Applications for certificates, accompanied by the plans and other particulars, should be made to the London County Council through the district surveyor of the district in which it is proposed to build.

Luxury Building

Regulations which have been framed by the Ministry of Health to govern local authorities in the application of their new powers of restraining "luxury" building are to be issued very shortly. The initiative in regard to the suspension of work on what is considered to be a "luxury" building will rest with the local authority. It is not intended to penalise "luxury" builders more than is absolutely necessary. Where a local authority has an adequate housing scheme in progress and the work is proceeding satisfactorily, it may be assumed that the progress of any other building scheme—whether of factories, shops, or cinemas—will not be interfered with.

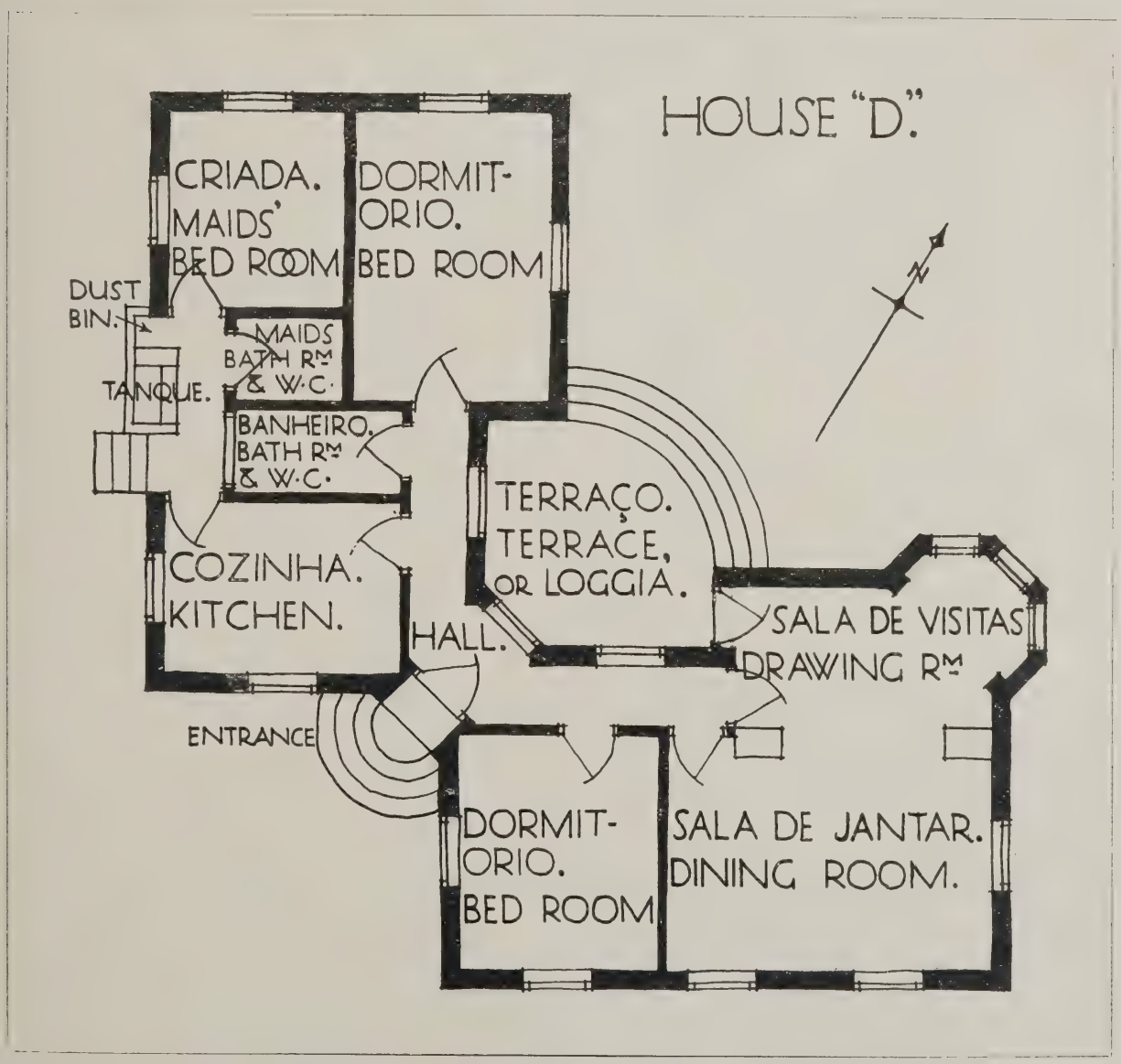
Where, however, it appears to a local authority that new housing schemes in its area are being, or may be, delayed by the construction of other buildings which for the time being are of less public importance, the local authority may, subject to the conditions prescribed by the Ministry of Health, prohibit the construction of such buildings either wholly or partially. Such power is to be exercised not only in the interests of houses for the working classes, which form part of a housing scheme of the authority, but also in the interests of all housing construction, including private building and houses for the middle classes.

Work on a "luxury" building may be suspended for a maximum period of six months, when, if necessary, the position can be reviewed. An obligation is placed on the local authority to serve a notice on a builder for the stoppage of a building to which it takes exception. This notice, however, will be subject to an appeal by the builder to the Minister of Health. For the purpose of hearing appeals and deciding disputed cases the Ministry is setting up a tribunal consisting of five members. The chairman will possess legal knowledge. Two of the members will represent the Building Resettlement Committee, one for the employers, and the other for the employees. The remaining two members will represent respectively the local authority and the point of view of the business man. The new regulations do not attempt to define "luxury" building. A local authority will have merely to determine whether, in its own area, a particular building is delaying housing, and whether it is more important that that building or that new houses should be erected.

On the latter important point many difficult questions may arise, and a local authority will be urged to exercise its powers with much caution. A new factory, for example, would mean more work, more wages, and more production, and its construction, therefore, should only be prohibited or delayed with great care. On the other hand, if there were no vacant houses in the district and new labour was likely to be diverted to the factory, with the result that overcrowding might be aggravated, it might be advisable that the building of the new factory, or a portion of it, should be suspended. It is all a question of relative urgency. The Ministry points out that the local authority will find that the difficulty of coming to a decision will be considerably eased if it enters without delay into an arrangement with the building trade of its area for an adequate and sufficient housing programme.

Current Architecture 7.—House at San Paulo, Brazil

Barry Parker, F.R.I.B.A., Architect.



The above house, at San Paulo, is designed in the traditional Portuguese manner. Mr. Barry Parker, the architect, described his town-planning experiences in Brazil in our issue for January 14.

Annual Meeting of the National Federation

MR. F. L. DOVE, D.L., L.C.C., the President, presided over the annual general meeting of the National Federation of Building Trades Employers of Great Britain and Ireland, held on January 28 in London.

The annual report, which was submitted by Mr. A. G. White, the secretary, dealt with a number of important matters which had engaged attention during the past year. Perhaps the most important question was that of the demand for a national forty-four-hour working week, without reduction of pay, which was made by the National Federation of Building Trade Operatives. The report outlined the various negotiations which took place on the matter, and stated:

"The proceedings of the National Board on this question have been the subject of strong criticism, and it is only fair to the Board to recognise what were the conditions precedent which it had before it. The proceedings were prolonged, no acceptable compromise could apparently be reached; this was attributed to the fact that the Operatives' Federation had taken a vote of its members, which showed a large majority in favour, and its representatives on the National Board evidently felt that their hands were tied. When that position was realised, it was thought that if a vote was taken similarly in the Employers' Federation it might disclose a state of opinion which would facilitate a decision. The vote disclosed a 93 per cent. majority against the Operatives' demand. The representatives on both sides of the Board now found themselves bound by a vote, and the situation ought clearly to have been at once recognised, and no decision arrived at by the Board. In its anxiety to solve the difficulty, the Board continued its efforts to arrive at some compromise which might be acceptable to both sides; unfortunately, two members on the employers' side failed to recognise that the ballot of members imposed a certain duty on them, and for some extraordinary and unexplained reason voted in direct conflict with that duty, which resulted in a decision to grant the forty-four-hour week all the year round as from May 1, 1920. The decision was then sent up to the Ministry of Labour for endorsement, but the Minister received so many protests against endorsement, alleging that the decision was improperly arrived at, that he sent the protests to the National Board, with a request for its observations. The Board appointed a Committee to draw up observations and send them in, which was done. In the meanwhile, however, the Wages (Temporary Regulation) Act, 1918, expired, and with it went the Minister's power to endorse decisions; and although the decision was in fact given and sent in prior to the expiry of the Act, the Minister considers that endorsement by him is no longer desirable. In these circumstances the Council considered the position, and in view of the circumstances under which the decision was given, the protests which have been made from nearly all parts of the Federation, and also the fact that other industries are in negotiation for a forty-four-hour week, and that those negotiations ought not to be prejudiced, and, finally, having regard to the pressure being put upon the building industry to obtain outside labour because of the great shortage of building trade labour, which makes it evident that this is not the time to shorten hours, the Council requested the Administrative Committee to confer with executive or other representatives of the Operatives' Federation with a view of arranging so that the decision of the National Board shall not come into effect on May 1 next, but at some later date."

The President, in proposing the adoption of the report, referred with great regret to the losses which the Federation had sustained by the deaths of Mr. William Shepherd, Mr. J. W. White, and Mr. W. J. Renshaw. On the suggestion of the President, the members passed in silence a vote of condolence with the families of the deceased, which the secretary was requested to convey to them.

Mr. A. J. Forsdike (Sheffield) seconded the adoption of the report.

The Secretary announced that the Council had passed a resolution intimating that the interim report presented by the Management and Costs Committee of the Industrial Council of the Building Trade met with their strong disapproval, and requesting the Administrative Committee to take the necessary steps to give expression to their disagreement.

Mr. B. I. Greenwood (London) asked whether satisfactory progress was being made by the Council to arrange that the decision of the National Conciliation Board re the forty-four-hour week should not come into effect on May 1, but at some later date. He also enquired whether any progress had been made in trying to get the rules of the National Conciliation Board with regard to voting revised. That was a matter which urgently needed attention, although he was quite aware that no alteration could be made without the consent of the representatives of the operatives. Having expressed his satisfaction that the Council had expressed strong disapproval of the interim report of the Industrial Council, Mr. Greenwood said he believed they would all agree with the Council that the proceedings of the National Conciliation Board last year had been of "unusual importance." They had raised the wages of unskilled labour to 1s. 9d. per hour, and they had decided that the rate for unskilled labour was to be within 3d. per hour of the rate paid to the skilled workmen. He believed that the ultimate effect of the latter decision would be the gradual elimination of all the skilled trades, that their children would rise up and curse them for the ruin they had brought on the industry.

The President, in reply, said that progress, slow but he believed sure, was being made in the matters to which Mr. Greenwood had referred. He agreed as to the mischief likely to arise from the small difference between the mechanics' rate and the labourers, and with him he thought they stood a very good chance of being cursed by the next generation.

The report was adopted.

Mr. W. H. Nicholls (Gloucester), in proposing the adoption of the accounts, congratulated the Federation that at last it was in a financial position when it would be possible for the Council to reorganise their machinery from headquarters, so as to make its work more thorough.

Mr. A. J. Forsdike (Sheffield) seconded, and the accounts were adopted.

It was resolved that the subscription for the current year remain unaltered—i.e., 9d. in the £100 on wages paid.

Some discussion ensued on a resolution passed by the Council, asking the Minister of Health to enforce the model form of contract D88 on all local authorities under his authority.

Mr. Ernest J. Brown (London) detailed the negotiations he had been engaged in with the Contract Committee of the Ministry, with a view to getting the model form altered in certain particulars, and said that after much trouble he had got the Committee to recommend an alteration in the clause governing the position of a builder who had to pay extra money either in increased wages or for increased cost of materials over and above what he had allowed for in the schedule of prices in his contract. The Contract Committee had agreed to recommend the Minister to alter that clause to allow an increase in profit not exceeding 5 per cent. If that was accepted by the Minister it would be notified by the various secretaries to their members.

The President referred to the desirability of the Federation working in closer union with the Scottish Federation, and said that the Administrative Committee had met a delegation from Scotland the previous day at which the matter was discussed. He believed that some mutually satisfactory arrangement could be developed which would be to the advantage of both Federations, although at present the Committee had no definite report to bring forward.

Mr. W. Moffat (Birmingham) expressed his approval of the President's views, and, after a short discussion, a resolution was agreed to empowering the Administrative Committee to act in the matter as they thought fit.

The meeting next considered the following resolution, which was passed at a special meeting of the Executive Council on January 6 last: "That this Executive Council approves and adopts the Draft National Code as printed, subject to a few minor amendments, and recommends it to this general meeting for formal approval."

The President, in moving the adoption of the resolution, traced the history of the new code, which he said first originated in an effort made some years ago on the part of the North-Western Federation to establish a different form of contract to the one they had suffered under, and were still suffering from at the present time. The North-Western friends got a considerable way along with the matter, and later on it was taken up as a national matter, and some of their friends, notably Mr. Elvins and Mr. Moffat, had laid themselves out to work on the matter, and they had been at it nearly a couple of years. As now presented, the code might be regarded as being in a pretty nearly complete form.

Mr. Moffat, in seconding the resolution, said that the work of the Contract Committee was now finished. The new code would now go before the Negotiating Committee with three small amendments which had been drafted, and that committee would probably carry the matter a further stage. They had merely agreed among themselves as to what they said was a fair contract between themselves and their employers. They had not considered the position of the quantity surveyor or the architect as governing the position entirely. They had striven to be fair to the two parties to the contract—the employer and the builder or contractor—bearing in mind at the same time the

general practice and the general commercial instinct of the country, and they had tried to put into practice no worse conditions among themselves than would obtain in other trades. With that in mind, they had tried to put the architect and the quantity surveyor in the proper places which they should occupy—that was as agents of the employer in a more or less fiduciary capacity. Professional bodies had not been slow to move in the matter. The Society of Architects had produced a new contract, which he hoped none of them would sign. The R.I.B.A. had also produced a new contract, which some of them had seen. They had got to strike out a new line, and they had got to agree to that new code somehow with their employers. They hoped that it would be a document which would be a standing building code for the whole of the country, by which they would be able to measure up against the rotten architect, the rotten employer, and the rotten quantity surveyor.

The President said the Council had given six months' notice to the R.I.B.A. to terminate the existing contract on July 1 next. They thought it only fair to do that, and not to fire a new contract straightaway at them.

The resolution was carried.

The Secretary read the recommendations of the Executive Council for the election of President and officers for the ensuing year as follows: President, Mr. S. Easten (Newcastle-on-Tyne); Senior Vice-President, Mr. A. J. Forsdike (Sheffield); Junior Vice-President, Mr. John Good (Dublin); Treasurer, Mr. W. H. Nicholls (Gloucester); Senior Auditor, Mr. J. Croad (Gosport); Junior Auditor, Mr. H. Matthews (Manchester).

The President, in moving the election of Mr. Easten as his successor, congratulated that gentleman upon his restoration to health, and expressed the confident belief that he would make one of the best Presidents the Federation had ever had.

Mr. S. Smethurst (Oldham) seconded the motion, which was supported by Mr. F. G. Hodges (Burton-on-Trent), and carried unanimously.

Mr. Easten, having been invested with the chain of office, took the chair vacated by Mr. Dove amid applause. In thanking the meeting for his election, he said he recognised to the full the responsibility which attached to the position, more particularly as at the present time. He was sometimes inclined to think that, as they had been successful in many ways in their Federation efforts, some of them were losing sight of their responsibilities. He did not forget that they had a right to fight for their rights—he believed in a man fighting for his rights—but at the same time they ought not to forget their duties. One of their duties to-day was to obey the Government of the country, and in that connection they were bound to make some effort in helping towards the provision of the houses that were so urgently needed throughout the country. It was the duty of every builder in the country to take his burden of housing upon his own shoulders. It was not for any one of them to say that they were going to continue their own private business and ignore the interests of the nation. Not only should they recognise that as a question of principle, but as a question of policy, because they might rely upon it that unless the builders of the country seriously tackled the housing question, the Government would be compelled to tackle it in another way, either by letting the labour direct to the work-areas to do the whole of the work and denude the local contractors of labour. He believed that they could all do their duty without any sacrifice whatever to themselves. The other day, to his surprise, Sir James Carmichael asked to see him in regard to the position at Newcastle, which was probably similar to that prevailing throughout the remainder of the country. They required there at least 5,000 houses for the immediate needs of the people. Up to the present not a single house had been commenced. Some two months ago they invited tenders for ninety-six houses, and some six or seven tenders were sent in. They varied from £96,000 to something a little over £100,000. He believed the variation in the different tenders was not more than about 10 per cent. On his (Mr. Easten's) recommendation, his Council accepted the lowest tender, but the Government immediately turned it down. It was in that position that he, along with other local representatives, was requested to see Sir James Carmichael, and he told them that their tender was something like 20 to 25 per cent. in excess of the tenders that had been accepted throughout the country for a similar class of house. He (Mr. Easten) explained to Sir James that there might be several reasons why their tenders were so high, and, amongst others, possibly their architect was a little ambitious, and probably wanted to get something a little better than was being got through the remainder of the country. Pressed by Sir James Carmichael as to whether they could suggest anything whereby the building of the houses could be facilitated, they made this proposition to him. They said: "We know you do not like the cost-and-profit basis, because the most unscrupulous contractor gets the biggest profit and penalises the employer, but if we can suggest a way to you on a cost-and-profit basis whereby the contractor who does the best for himself is going to do the best for his employer, would you accept it?" Sir James asked him in what way he could suggest that could be done, and he replied: "Let us select twenty, thirty, or forty builders to put up ten or twenty houses each, on a cost-and-profit basis in all cases, with a limit of 5 per cent. upon their existing tenders; that is to say, that if a builder exceeds the amount of the lowest tender plus 5 per cent. he loses the remainder of the money. The whole of the builders' costs are to be added together less those that exceed the 5 per cent. above the lowest tender and 7 per cent. added; that 7 per cent. to be allocated amongst the builders proportionately to the economies that they have effected in their building construction." That meant that those who got the houses built cheapest would get the largest amount of profit, and those that cost most would get the least. That method gave a direct inducement to the builder to conduct his business in the most economic manner. He had another interview with Sir James Carmichael on the following day, at which they discussed the matter a little more exhaustively, and suggested among other details that a committee should be formed amongst the builders themselves to apportion the 7 per cent. as the quality of the work would have to be taken into consideration. Sir James asked him how soon they could get on with the houses if he assented to their proposition, and he told him that he thought he could reasonably promise that a start would be made within about a fortnight. On that Sir James said that he would agree to their suggestion, and therefore they might take it that the Government had agreed to the principle he (Mr. Easten) had outlined. He hoped it would be possible to make similar arrangements for building in other districts in the north, and he did not think there was anything in the proposition for them to kick against. The Government were, he thought, justified in asking from them a guaranteed promise that they would do their best. If there was not a guarantee in the method he had put forward, there was at least a direct incentive for every builder to do his best, and he believed it was to the direct interest of the builders of the country to adopt some such principle rather than content themselves with passing pious resolutions that they should have this, that, and the other. Mr. Easten concluded by proposing a vote of thanks to Mr. Dove for his services as President during the past year, and that his name be added to the list of Hon. Vice-Presidents.

Mr. Forsdike seconded the motion, which was supported by Mr. F. Woods (Bolton), and carried unanimously.

Mr. Dove having briefly acknowledged the vote, the remaining officers as recommended by the Council were unanimously elected.

On the invitation of Mr. S. Miller (Newcastle-on-Tyne) it was agreed to accept the invitation of the Northern Counties Federation to hold the summer meeting of the National Federation in that city on July 27 and 28 next.

R.I.B.A Housing Conference at Olympia

Further particulars have been issued by the R.I.B.A. with regard to the conference on housing, which is to be held at the Olympia on February 4, 5, and 6, and to which a reference was made on page 136 of our last issue. The conference will be opened at 3.30 p.m. to-day. Sir Aston Webb, K.C.V.O., P.R.A., will preside, and an address will be given by Dr. C. Addison, Minister of Health, who will be supported by the Right Hon. Viscount Astor, Sir Kingsley Wood, M.P., Major Harry Barnes, M.P., Mr. Bernard Holland, L.C.C., and Mr. Oscar Warburg, L.C.C.

On February 5, the first day of the conference, Sir Theodore Chambers, K.B.E., and Sir John Ferguson will take part in the discussion on "The Financial Aspect of the Housing Problem"; Messrs. W. E. Riley, F.R.I.B.A., and F. M. Elgood, F.R.I.B.A., on "The Difficulty of Obtaining Contracts"; Sir Reginald Blomfield, R.A., and Lieut.-Col. W. G. Newton, M.C., A.R.I.B.A., on "The House Beautiful"; and Messrs. E. Guy Dawber, vice-president R.I.B.A., and H. Avray Tipping on "The Preservation of Old Cottages and Villages."

On February 6 Mr. Kennedy Jones, M.P., will take part in a discussion on "Difficulties of Transport and Materials"; Professor S. D. Adshead, vice-president, R.I.B.A., and Mr. W. Alexander Harvey, F.R.I.B.A., on "The Economics in Planning and in the Employment of New Materials"; and Mr. J. P. Lloyd, President, London District Council, National Federation of Building Trades Operatives, on "Housing from the Working-Man's Point of View." A discussion will also take place on "New Houses and the New Social Order."

men, or sending large contractors into

Correspondence

London Atelier of the Liverpool School

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As many pre-war members of the Liverpool architectural school appear to have restarted their architectural work in the Metropolis, it is thought that the atelier would now serve a more useful purpose to past students of the Liverpool school and others if it were restarted in London. It is proposed, therefore, to do this.

I should be glad if old members and anyone else desirous of becoming a member would communicate with me at Messrs. Emerson and Adams, 4, Regent Street, S.W., with a view to the atelier's reorganisation.

This invitation is not limited to ex-students of the Liverpool school, but is open to all interested in the type of work the Liverpool school has stood for.

W. N. ADAMS.

Wolsey's Gate, Ipswich

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With regard to the comments in your issue of January 14 concerning Wolsey's Gate, Ipswich, may I point out that the words quoted there were spoken by Wolsey on his entry into Leicester Abbey, two or three days before he died in that institution. Historians tell us that he was ordered, after his downfall, to reside at Esher, in Surrey, and afterwards at York. It was on his journey from York to London that he was received at Leicester Abbey.

G. D. LANGHAM.

Old Inn Signs

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest the "Architectural Causerie" on old inn signs, and should like to draw your attention to a curious old sign which is suspended to a very old inn, near Chessington, Surrey. The sign consists of a small four-barred gate, with the following words painted on the bars:

"This gate hangs high
But hinders none.
Refresh and pay
And travel on."

The inn, which is picturesquely situated by the side of a "water-splash," as shown by the photograph (reproduced below), is a weather-boarded structure. In view of the controversy at present taking place on method of construction it is interesting to note that this old building has evidently been standing some 150 years.

Curiously enough, I came across the same sign on an inn at Potter Heigham, in Norfolk, one summer when spending an "architectural yachting" holiday in a district very rich in fine specimens of Gothic architecture.

H. J. PALMER, A.R.I.B.A.

Coming Events

WEDNESDAY, FEBRUARY 4.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Conditions the Workers may Control," by Major A. E. Pells. 7.30 p.m.

FRIDAY, FEBRUARY 6.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public demonstrations on the practical testing of cement, by Mr. H. K. G. Bamber, F.C.S., etc. 6 p.m.

THURSDAY, FEBRUARY 12.

Bartlett School of Architecture, University College, Gower Street, London.—"English Architecture in the Nineteenth Century," by Professor Simpson. 5.30 p.m. Admission by ticket.

WEDNESDAY, FEBRUARY 18.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Evolution in Modern Methods in Industry," by Mr. W. W. J. Grosart. 7.30 p.m.

FRIDAY, FEBRUARY 20.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture, "Some Points in Reinforced Concrete Design," by Mr. H. Kempton Dyson. 6 p.m.

THURSDAY, FEBRUARY 26.

Bartlett School of Architecture, University College, Gower Street, London.—"The Trend of Architectural Thought in England To-Day," by Professor Simpson. 5.30 p.m. Admission by ticket.

AN OLD WEATHER-BOARDED INN NEAR CHESSINGTON, SURREY.

Extension to Manchester Technical College

Mr. J. C. Maxwell-Garnett, Principal of the Manchester Municipal College of Technology, in appealing to the Manchester District Committee of the Federation of British Industries for £150,000 for the extension of the College of Technology, emphasised the necessity for producers to support such an institution, to the end that the supply of trained men to undertake industrial research and other work might equal the demand. In both America and Germany technical education of a University grade was realised to be an all-important factor in industrial development, as witness the recent subscription of twelve million dollars for extensions to Harvard University, and ten million dollars for a similar purpose to the Massachusetts Institute of Technology. The total number of University students in this country before the war was about one-third of those in Germany, less than one-third of those in Scotland, and less than one-half of those in the United States. The committee supported the appeal, and, in commending it to the sympathetic consideration of all Lancashire producers, registered their opinion that "the development of the invaluable work of the College of Technology was of vital importance to the well-being of the industries of the district and county."

South Wales Federation

The annual dinner of the South Wales Building Trades Employers' Federation has been held at Cardiff under the chairmanship of Mr. A. W. Julian, Pontypridd. The toast of "The Builders' Federation" was proposed by Mr. A. Lloyd Thomas (Housing Commissioner for Wales), who said that good housing work had already been done by the Federation. The area of his district was 7,850 square miles, with a population of 3,000,000. There were 187 local authorities, some of them more or less recalcitrant, which had refused to submit schemes, whilst others had done all in their power. Of the local authorities in his area 152 had submitted schemes on sites; plans for 9,000 houses had been approved; 872 were in course of erection and 200 more were under roofs. Tenders had been approved for 1,500 houses and contracts had been let by fourteen different authorities. A great deal had been done during the past five months. Sir William Seager said he felt sure the building industry would deliver the goods—especially if the architects, builders, local authorities, and Housing Commissioners pulled together. Some of those present could build one thousand houses, while others could build smaller numbers, and he appealed to them to put in their best possible effort, and if they all pulled together the great and growing trouble of unrest would be got rid of. He would ask them not to be afraid that oil was going to take the place of coal. An authority had stated that there was still 28,000,000,000 tons of coal in South Wales, and coal would always find its economic position. He appealed to the builders to be optimistic and go ahead with the building of houses. "The Operatives' Federation" was proposed by Mr. H. Waring (Neath), and responded to by Mr. W. Williams (president of the Operatives' Federation), and the toast of the architects and surveyors by Mr. W. E. Goodridge (Neath).

"Hurcan" Block Construction.

During a recent speech addressed to a meeting of architects, Viscount Astor, on behalf of the Ministry of Health, appealed to the profession to give an unprejudiced consideration to new methods and new materials of construction. The appeal was so courteously put that it contained no suggestion that such unbiassed attention had not been given in the past; the point of the appeal was, rather, that architects should not allow new materials which do not deserve consideration to betray them into neglecting those that do. The best guarantee that new materials and new methods of construction are entitled to consideration is when they are produced or advocated by firms of established reputation. The "Hurcan" slabs, produced by Messrs. Bell's United Asbestos Co., well known as makers of "Poilite" sheeting, are an excellent illustration of the fact. These slabs differ from the ordinary concrete block in that they are finished with a surface of cement asbestos sheeting, which is carried round all the edges. This asbestos portion is actually combined with the concrete during manufacture and does not merely form an attached skin. The manufacturers claim that this effectively seals otherwise porous concrete, and renders the slab absolutely impervious to moisture besides materially reinforcing the slab itself.

"Hurcan" slabs may be obtained in different sizes and in distinct designs for various methods of erection. One design is a plain slab finished with the asbestos face both externally and internally. This style may be erected in a skeleton steel framing. In this case the method of construction is to employ an inner and an outer slab, filling the space between them with rough concrete. By regulating the distance between the inner and outer casing any desired thickness of wall may be obtained. Both the interior and the exterior walls thus present a finished surface without plaster or rough-cast, although the surface lends itself to further treatment where this is desired. This method of construction was adopted by the firm in erecting a pair of experimental cottages near their works at Harefield; these cottages were inspected by a representative from the Ministry of Health, and by several architects and builders. It is claimed that the cottages have a good appearance and an assured weatherproof durability, being also cheap and quickly erected.

Another method of construction, proposed by the firm as being suitable for factory building, is to employ these plain slabs built up between brick distance piers, or steelwork if preferred, and leaving an air space of any desired width between inner and outer walls. For the brick piers the Lovell brick has been designed primarily for use with "Hurcan" slabs, and the manufacturers claim that the combination provides a method unequalled for speed in erection, and a material affording efficient and economical walling.

In the firm's latest slab design and constructional method both steelwork and piers have been eliminated by manufacturing the slabs with distance lugs on the back. Slabs of this type form a stout wall and yet preserve a true air-cell shell for the building, as will be seen in the accompanying illustration. This type, by eliminating bricks and steelwork, is the cheapest of the productions; and it is claimed to be cheaper than brickwork and to involve much smaller labour charges in erection. In all cases the slabs are pointed with a thin cement grout.

For the purpose of illustrating what can be done with their materials, the manufacturers have constructed an exhibition cottage at the Olympia Exhibition. It is not designed as an "ideal" cottage, but it is ingeniously planned to display the various methods of employing "Hurcan" materials. Timber work, "Hurcan" slabs, "Poilite" sheeting, and pantiles have been combined to give proof that architectural outlines and details can be obtained with these materials, available at a moderate cost, and abolishing porosity and condensation. Although the materials make a very economical building, they also lend themselves to additional picturesque and artistic effects at a moderate extra cost. The interior affords ample proof that the same effects are possible indoors, for various sections of the walls are shown in different styles—plain blocks, panelled walls, and ceiling, etc. "Poilite" also is admirably adapted for use in conjunction with "Hurcan" materials to form such features as string courses, rusticated work, neckings, labels, sills, copings, and so on. "Hurcan" slabs themselves, owing to their cement-asbestos surfacing, have very much the appearance of dressed stonework, and they soon weather and give pleasant warm tones and colour contrasts. The materials have been inspected by the Ministry of Health and approved in connection with State-aided housing schemes; in view of this the manufacturers are laying down plant with all possible speed to produce on a large scale.

Their all-round excellence, their reliability and economy in erection, should ensure for these materials a very considerable demand.

Trade and Craft

The Cenotaph.

In our "Notes and Comments" fo January 21 we commented upon the demo lition of the temporary Cenotaph i Whitehall preparatory to the reconstru tion of the memorial in permanent mat rials, and in doing so we drew attention t the excellent condition of the monumen which we attributed to the "weatherin qualities of the fibrous plaster of which is made." The Coatostone Decoration Co write to point out that the entire surface o the Cenotaph was covered with Coatoston which not only gave it the appearance o solid masonry, but also protected th fibrous plaster from the weather.

"Coatostone," which is a liquid ston is applied with a brush, and, hardenin like stone, it is a first-rate weather-resis ing veneer.

London County, Westminster, and Parr Bank, Ltd.

The net profits of the London County Westminster, and Parr's Bank, Ltd., fo the past year, after providing for bad an doubtful debts, and all expenses, amoun to £2,455,007. This sum, added t £377,560 brought forward from 191 leaves available the sum of £2,832,56 The dividend of 10 per cent., paid i August last, absorbs £494,969. A furthe dividend of 107 per cent. is now declare in respect of the £20 shares, and the maxi mum dividend at the rate of 12½ per cent per annum on the new £1 shares will b paid. £1,000,000 has been set aside fo investment depreciation, £100,000 trans ferred to the bank's war memorial fund i accordance with the resolution at th general meeting on January 30, 191 £100,000 transferred to premises account and £165,721 to reserve, bringing the re serve up to £8,750,000, leaving a balanc of £414,226 to be carried forward.

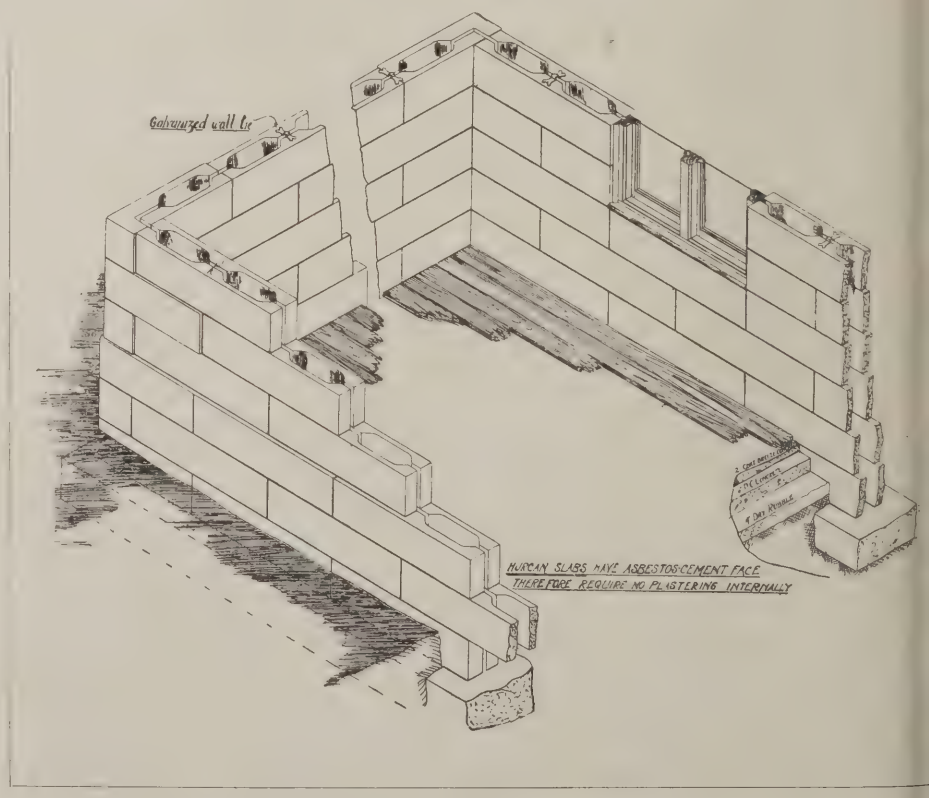


DIAGRAM SHOWING METHOD OF BUILDING WITH HURCAN E. SLABS

The Week's News

Yarmouth Improvements.

The Marine Parade is to be extended at cost of £24,000.

Carnarvon Memorial.

It has been decided to erect a cottage ıospital in South Carnarvonshire as a war memorial.

Concrete Wharf for Cowes.

It is proposed to construct a ferro-con-:rete wharf, 1,200 ft. in length, on the vest side of the River Medina at Cowes.

Whitehall Banqueting Hall.

The latest addition to the exhibits at the Royal United Service Museum is a picture ɔy Hanslip Fletcher of the Whitehall Banqueting Hall, which was designed by nigo Jones.

Institution of Civil Engineers.

At the last meeting of the Institution of Civil Engineers eleven Members and hirty-eight Associate Members were elected; twenty-one Associate Members vere transferred to Members, and thirty-hree were admitted as students.

Salford Sewage.

The Corporation has now definitely de-ided to apply for sanction to borrow ıearly a quarter of a million pounds in rder to carry out the long-proposed ewage scheme, which is expected to cost ;350,000.

Architectural Practice.

Major Arthur Clayton, R.A.F., M.S.A., Mem. Junior Inst. of Engineers, has been emobilised, and has opened offices at Duchy Chambers, Clarence Street, Man-hester, where he will commence practice s architect, surveyor, and civil engineer.

Board of Trade Removal.

The war insurance accounts branch of ıe Board of Trade and the headquarters f the statistical department have removed :om Gwydyr House Annexe, Whitehall, to ıe Board of Trade offices in Great George treet, Westminster, S.W.1.

Wolverhampton Memorial.

It has been decided that Wolverhamp-on's war memorial shall consist of (a) a ıemorial hall, (b) a memorial intimately onnected with the benefit of widows and rphans and other dependants of men vho have fallen. The exact form of the ıemorial will be decided later.

Victoria and Albert Museum.

Steps are being taken by the Victoria nd Albert Museum to provide reproduc-ıons in collotype, postcard size, of objects ı the Museum. Fifty subjects are at pre-ent available, selected from the collections f Italian sculpture, ceramics, metalwork, extiles and woodwork. It is proposed to ıcrease the number of subjects early in ıe spring, and to make additions to the eries from time to time. The postcards re sold at 1d. each and may be obtained rom the Museum. A printed list of the vailable subjects may be obtained gratis pon application.

Destruction of Important Dutch Brickyards.

Owing to inundations of the outlying elds of the Rivers Maas and Rhine, a rious catastrophe has occurred in the utch brick-making industry. Sixteen rickyards, containing 100 million un-aked and twenty-five to fifty million aked bricks have been entirely destroyed, ıd it is feared that the usual high water March will complete the destruction of any others which have already been amaged considerably. The reason why there were so many unbaked bricks in the ovens at the present time is said to be owing to the fact that lack of transport and fuel has prevented the firing of many un-baked stocks.

Royal Institute of Architects of Ireland.

Mr. Lucius O'Callaghan, president, presided at the first meeting of the new Council of the Royal Institute of the Architects of Ireland, held at Dublin. Mr. F. G. Hicks was appointed to represent the Institute at the congress at Birming-ham of the Royal Sanitary Institute, and Mr. F. Hayes was elected vice-president of the Institute for the ensuing year. The committees and special committees were appointed. On a report of the scrutineers of the ballot a number of members were elected. A resolution was passed in favour of the registration of architects, and of supporting the R.I.B.A. in any action they may take in that direction.

Work for Ex-Service Architects.

The Society of Architects state that there are plenty of well qualified architects—particularly ex-Service men—who wish to obtain housing work. Acting on informa-tion received as to the treatment meted out in some cases to ex-Service candidates for housing appointments, the Council of the Society of Architects has passed a resolu-tion expressing the opinion that, other things being equal, ex-Service candidates should receive preference for housing and other appointments open to qualified archi-tects, and the necessary steps are being taken to bring this resolution to the notice of those concerned.

Canadian Industries Exhibition.

An exhibition, exclusively devoted to Canadian industrial enterprises, is to be held in June next in London. The organi-sation is in the hands of Mr. H. Greville Montgomery, promoter of the building trades and other exhibitions, who, in com-pany with Mr. Lloyd Harris, of the Canadian Mission in London, recently paid a visit to Canada to personally enlist the support of firms particularly interested in promoting Canadian interests in the world's markets. Most of the ground floor space at the Royal Agricultural Hall has been allotted to leading firms, the exhibits including woodworking machinery, ready-made houses, steel products, etc. All information can be obtained from the offices of the exhibition, 43, Essex Street, Strand, W.C.2.

Another Aldwych Site Secured.

The last large building site in Aldwych (facing the island site of the Bush Ter-minal Company and Australia House) has been secured for British industry, the offer made by the Agricultural and General Engineers, Ltd., having been accepted by the London County Council. This important site has a frontage on Aldwych of about 213 ft. and an approxi-mate area of 30,000 ft. The board of the Agricultural and General Engineers, with which company are associated the well-known businesses of Aveling and Porter, Rochester; Barford and Perkins; E. H. Bentall and Co., Heybridge; Blackstone and Co., Stamford; Chas. Burrell and Sons; Richard Garrett and Sons, Leiston; J. and F. Howard, Bedford; and others, has decided to erect commodious office and showroom accommodation. The archi-tects are Messrs. Josiah Gunton, F.R.I.B.A., and W. H. Gunton, A.R.I.B.A.

Waygood-Otis Social Gathering.

The senior members of the staff of Waygood-Otis, Ltd., the lift makers, re-cently entertained at the Connaught Rooms, London, the directors and two members of the staff, Mr. B. P. Walker and Mr. T. Simmons, who had just re-turned from a journey to the United States. After a reception by the chairman, Mr. George Martin, dinner was served in the Sussex Room. The toast of "The Guests" was proposed by the chairman, seconded by Mr. F. Colebrook, and the reply was given by Mr. Charles Clarke, one of the managing directors. The toast of "The Company" was given by Mr. Henry Lambie, supported by Mr. F. W. R. Scott, of Birmingham, and the chair-man of the company, Mr. Henry Claude Walker, responded. Speeches were also made by the other directors present, Mr. D. W. R. Green (one of the managing directors), Mr. R. H. Thorpe, Mr. H. Harmsworth, and Mr. C. H. J. Day. A very happy gathering was concluded by the toast of "The Chairman," proposed by Mr. A. A. Williams, of Leeds.

New Hotel for Bombay.

An Indian newspaper announces that a new hotel is to be erected in Bombay. The promoters of the new hotel are Messrs. K. D. Wadia, N. M. Wadia, and Cursetji Limjibhoy, of the Bombay Cycle and Motor Car Co., Ltd. The details of the new hotel have not yet been settled, but as soon as the Bombay Municipal Corpora-tion sanctions the sale of the land on the terms proposed by the Municipal Commis-sioner, instructions will be cabled to England for a well-known firm of London architects to prepare plans for an up-to-date residential hotel. It is proposed to build a five-storey building with 300 rooms, and with special provision for halls for various kinds of entertainments. The pro-moters also propose to erect a gymnasium and a swimming bath in connection with the hotel. The estimates of the cost of the building, furniture, and other materials necessary for the equipment of the hotel are being carefully prepared, and it is believed that the capital involved will be anything between 30 and 50 lakhs of rupees.—Reuter's Trade Service.

British Institute of Industrial Art.

In April the British Institute of Indus-trial Art propose to hold an exhibition of current British works at their headquarters, 217, Knightsbridge, London. One section of the exhibition will be devoted to manu-factures, and another to the artist-crafts-man. All the exhibits will come before a selection committee, and inclusion at the exhibition will be based solely upon the attainment of a high standard of design, workmanship, and material. On certain days the exhibition will only be open for the transaction of business by accredited trade representatives. Travelling exhibi-tions of a similar character are also to be organised in London, the provinces, and abroad. Bureaux of information are also to be organised, as well as a purchase fund to secure for the State selected works of outstanding merit. The Institute has been established by the Board of Trade in con-junction with the Board of Education, and is constituted under a board of governors. Major A. A. Longden, D.S.O., has been appointed director, Mr. T. L. Horabin secretary, and Mr. W. B. Macdougall technical officer.

Town Development and Housing

Kensington.

Cottages and maisonettes are to be erected by the Kensington Council at a cost of £188,000.

Bolton.

The Housing Committee has decided to erect thirty-two concrete houses, and application is being made to borrow £19,168 for this purpose.

Bombay.

In view of the shortage of housing accommodation, the Bombay Government has provided temporary camping sites on Cumballa Hill.—Reuter Trade Service.

Chislet.

A commencement is being made with the erection of new offices for the staff at the Chislet Colliery. A contract has been entered into for the building of the first 400 houses which are to form part of the mining village

Glasgow.

Glasgow Dean of Guild Court has approved plans for housing schemes to cost £1,250,000. The plans passed included the Corporation scheme to erect over 1,000 dwelling-houses, as well as important extensions of public works.

Norwegian Housing, etc.

It is learnt from Norway that Norwegian towns are short of houses, and much money is urgently needed for building purposes. All over Norway, too, plans are ready for the installation of large hydro-electric plants, the cost of which will run into many millions of kroner.—Reuter's Trade Service.

Scarborough.

The Scarborough Housing Committee has held a conference with local builders to solicit their co-operation in accelerating the construction of houses. The builders expressed their desire to help, but pointed out that they are suffering from a great shortage of labour, and are not prepared to speculate themselves in the type of houses required.

Greece and Wooden Houses.

The Greek Government has invited Swedish builders to send sample models of ready-built wooden houses to Greece, indicating that large orders might result. "Svensk Handelstidning" points out the great importance of this opening, especially as trade between Sweden and Greece has considerably increased of late, both as regards imports and exports, and transport facilities are comparatively good.—Reuter Trade Service.

Gloucester.

The Gloucester Branch of the Amalgamated Society of Carpenters and Joiners have passed a resolution of protest at the action of the Corporation in giving the contract to build 50 houses to the Federated Builders of Gloucester, without obtaining estimates from those firms who would have been willing to tender for the work, seeing that other public bodies in the county were enabled to save £200 per house after putting the work to open tendering.

Ashbourne.

During a discussion on the new housing scheme at a meeting of the Urban Council it was stated that the estimated cost of laying out and building the new street would be about £64,500, which, with the £4,000 for the purchase of land, would make approximately £70,000. The cost of the three types of houses would be about £650, £704, and £800 respectively. It was proposed to erect 35 or 40 houses to start with. The plans were provisionally approved by the Council, and were ordered to be sent to the Housing Commissioner.

Manchester.

The proposal of the Building Guild Committee at Manchester to build 2,000 artisans' dwellings for the Manchester Corporation has been approved at a meeting at Manchester of representatives of the building trades' operatives of Manchester and district. The meeting, which represented 14,000 operatives, embracing all sections of craftsmen engaged in house construction, agreed to elect representatives of each trade union concerned to sit on the committee. A mass meeting is being called, when the scheme will be placed before the rank and file of the operatives.

St. Columb.

The Commissioner has provisionally approved the lay-out of sites at Newlyn East, St. Columb Town, Middle and South Wards, St. Enoder (Penhale and Summercourt); also the house plans submitted for the various types, subject to any modifications required before the tenders are finally accepted. The architects' (Messrs. Andrew and Randell) approximate estimates for the construction of roads, sewers, provision of water supply, etc., have been considered, and application is to be made to the Ministry of Health for sanction to borrow the following amounts: St. Columb Major (Indian Queens), £1,200; St. Columb (Newquay Road), £950; St. Newlyn East (Bowling Green), £390; St. Enoder (Penhale), £950; St. Enoder (Summercourt), £170; St. Columb Major, Middle, £110; total, £3,770.

The Ideal Home Exhibition.

Princess Alice Countess of Athlone will open the "Daily Mail" Ideal Home Exhibition at Olympia on February 4. In the annexe will be housed the official display of the Ministry of Health of approved houses. Three blocks of dwellings are from designs selected from 3,000 drawings prepared in connection with the "Daily Mail" Ideal (Workers') Homes competition, and the Ministry of Health adds three other blocks. Owing to the shortage of men and materials, the houses will not be built to their full height, but will finish at 4 ft. 6 in. level, so that they are really plans in being. The ground and first floors are shown side by side, so that the public will be able to see the designs from outside and obtain a bird's-eye view. Each dwelling consists of a living-room, parlour, kitchen with scullery, larder, coal storage and lobby on the ground floor, with three bedrooms, bathroom, water closet and linen cupboard upstairs. The houses are built on plans approved by the Ministry of Health.

Doncaster Town Planning Conference.

A town planning conference which has been held in the Mansion House, Doncaster, was convened by the Minister of Health, the leading spirit being Mr. G. L. Pepler, Town Planning Inspector to the Ministry of Health. Besides representatives of the County Council of the West Riding, the conference was attended by members of local authorities having a total area of 205,847 acres, a rateable value of £1,255,691, and a population at the 1911 census of 174,298. The authorities who sent delegates to confer were the Doncaster Borough and Rural Councils, the Urban Councils of Ardwick, Bentley, Bolton, Mexborough, Thurnscoe, and Tickhill, and the Rural Councils of Thorne, Hemsworth, and Blyth.

Mr. Pepler pointed out that they did not want the South Yorkshire colliery district developed in wasteful chaos and squalor, but on ordered lines, to a definite end, so that this new industrial province might be a model to be admired and imitated. The conference decided to form a committee, consisting of representatives of all the local authorities present, with a view to proceeding to the town planning of the area. It was agreed that a preliminary statement should be prepared, within four months of the constitution of the committee, at a cost not to exceed £1,000; the cost to be divided amongst the local authorities in accordance with their rateable values at the commencement of the financial year. It was left to the local authorities to appoint their own representatives on the committee.

Dilution in the Building Trade

A resolution emphatically protesting against dilution in the building industry has been passed by the Executive Council of the Operative Bricklayers' Society. The resolution sets out that the proportion of bricklayers engaged in the building industry in 1914 was 40 per cent. which was sufficient to meet the demand. To-day there are, in round figures, 55,000 bricklayers in Great Britain and Ireland. Assuming that 50 per cent. of this number (27,500) were employed in building houses the output at an average computation of six houses per bricklayer per annum would be far in excess of the Government's demand for the year. The resolution proceeds: Our demand from the Government in return for tackling the housing problem, by getting the houses built instead of talking about them, is:

1. Guaranteed full week for all operatives engaged upon housing. No man to lose time through forces over which he has no control, such as rain, etc.

2. Every bricklayer in the Army or Navy (not being a volunteer) to be released at once.

3. That non-essential building be suspended and tribunals set up in districts to examine all claims for building outside the housing schemes, and only by their sanction shall any such building proceed. Building trade unionists to have 50 per cent. representation on such tribunals.

4. That the rent of any cottage or flat under the Housing Scheme should not exceed 10s. per week.

5. That the Rents Restriction Act be extended until the supply of houses is equal to the demand.

6. In the event of the supply of labour being insufficient to meet the need we are prepared to consider the permitting of overtime upon housing schemes only, but as a condition of such consideration every man must be employed; in other words we will not sanction overtime for any scheme whilst other men are unemployed.

The resolution adds that these are practical answers to a pressing problem, and the bricklayers are prepared to start any day if these points are recognised. It is pointed out that during the past five years over 20,000 bricklayers have left the industry because it did not provide a living for them.

Current Prices of Materials

)NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ;ue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
(CAVATOR AND CONCRETOR	
cavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
›ourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
vvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
nberman, 1s. 9d. per ›our.	In underpinning, add 120 per cent.
ffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
ıtchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
————	Headings, including timbering, add 400 per cent.
›ken brick or stone, in., 7s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
ames ballast, 17s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Gravel, 17s. 6d. per yd.	Planking, 5½d. per ft. sup.
sand, 18s. 9d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
›shed sand, 20s. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
›eened ballast or gravel, dd 10 per cent. per yd.	Do. 6 in. thick, 2s. 9d. per yd. sup.
nker, breeze, etc., prices ccording to locality.	Puddling, 30s. per yd. cube.
›tland cement, 79s. per on.	Cement concrete, 4.2.1, 53s. per yd. cube.
. in small lots, ex ›ondon stock, 100s. per on.	Do. 6.2.1, 49s. 9d. per yd. cube.
	Do. in upper floors, add 12½ per cent.
	Do. in ferro concrete work, add 20 per cent.
	Do. in underpinning, add 50 per cent.
›s lime, 64s. per ton.	Lias lime concrete 41s. 3d. per yd. cube.
›ks charged extra at s. 6d. each and credited ›hen returned at 2s.	Breeze concrete, 26s. per yd. cube.
›nsport hire per day:	Do. in lintols, etc., 4s. 9d. per ft. cube.
›art and horse, 26s.	
›-ton motor lorry, £6.	
›team lorry, 5-ton, £7.	
›railer, 30s.	
›team roller, £4 10s.	
Vater cart, 20s.	
AINER.	
›ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
nberman, 1s. 9d. per our.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6-in. 14s. 6d., 9-in. 25s. 6d. per ft.
cklayer, 1s. 11½d. per our.	Note.—These prices include digging and filling for normal depths, and are average prices.
mber, 2s. per hour.	
tchman, 6s. 6d. per shift.	
————	
›neware pipes, tested uality, 4-in. 3s., 6-in. s. 9d., 9-in. 7s. 11d. per d.	
st iron pipes, coated, ›ft. lengths, 4-in. 4s., ›in. 5s. 9d., 9-in. 8s. 6d. er yd.	
›tland cement and sand, ›ee Excavator above.	
ıd for caulking, 49s. 3d. er cwt.	
sket, 1s. 9d. per lb.	
ICKLAYER.	
cklayers, 1s. 11½d. per our.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
›ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
ffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
————	Do. in blues, add 320 per cent. per rod.
ıdon stocks, 84s. 6d. per I.	Do. circular on plan, add 12½ per cent. per rod.
ttons, 73s. per M.	Facings, fair, 3d. per ft. sup. extra.
ffordshire blue, 198s. 6d. er M.	Do. picked Flettons, 4½d. per ft. sup. extra.
ebricks, 223s. per M.	Do. picked stocks, 6d. per ft. sup. extra.
ızed, salt, white, and ›ory stretchers, £25 er M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
headers, £24 10s. er M.	Struck pointing, 4d. per ft. sup. extra.
ours, extra, 130s. per M.	Tuck pointing, 10½d. per ft. sup. extra.
›onds, less, £1 per M.	Weather pointing, 4d. per ft. sup. extra.
nent and sand, see Ex- avator above.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
ıe, grey stone, 62s. per on.	Do. 1½-in., 5s. 10d. per yd. sup.
›ed lime mortar, 24s. 3d. ›er yd.	Do. 2-in., 7s. per yd. sup.
mp course, in rolls of ½ in. 3s. 8d., 9 in. 6s. 7d., 4 in. 8s. 10d., 18 in. 1s. 6d. per roll.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 10d. per ft. sup.
	Do. vertical, 1s. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 9s. per yd.
	Do. skirting, 6-in., 1s. 3d. per yd.
.SON (INCLUDING SLATE).	
son, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
. fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
›ourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
ffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
————	Sunk face, 3s. 1d. per ft. sup.
›tland stone:	Do. circular, 3s. 8d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. per ft. sup.
›asebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. per ft. sup.
›h stone, 3s. 1d. per ft. cube.	Do. do. circular, 2s. 8d. per ft. sup.
›k stone, 7s. 7d. per ft. cube.	Circular-circular work, 10s. 3d. per ft. sup.
paving, av. 2-in., 7s. 10d. er yd. sup.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
nsfield red, 6s. 4d.	Do. circular, 10½d. per ft. run
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone, 25 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
(Usual trade extras for large blocks.)	Deduct for Bath, 33⅓ per cent.
	Do. for Chilmark, 5 per cent.
Slate shelves, rubbed, 1 in., 2s. 2d. per ft. sup.	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
Cement and sand, see "Excavator," etc., above.	Rubbed rounded nosing to do. 6d. per ft. lin.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 74s., Countess 83s., Duchess 90s. per square.
Tiler, 1s. 10½d. per hour.	Westmoreland, in diminishing courses, 142s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 85s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 4s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
————	
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 9d. per ft. approx.
Clips, lead, 9½d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 82s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 75s. per square.
Nails, compo, 56s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton. Peggie 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 11s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 11s. 6d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 11s. 10d. per ft. cube.
————	Pitch pine, add 33⅓ per cent.
Timber, average prices, ex-London stock and d/d works or site.	Fixing only boarding in floors, roofs, etc., 14s. per ft. cube.
————	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel:	Centering for concrete, etc., including horsing and striking, 70s. per sq.
1st £52, 2nd £49 10s., 3rd and U/S. £47 10s. per std., equals	Slate battening, 23s. 6d. per sq.
1st 6s. 4d., 2nd 6s., 3rd and U/S. 5s. 9d. per ft. cube.	1-in. deal gutter board on firring, 92s. 6d. per sq.
Boards, 1st £53 10s., 2nd £51, 3rd and U/S. £48 10s. per std.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. per ft. sup.
Do. F.E., 3rd and U/S. £43.	2-in. do. do. 3s. 6d. per ft. sup.
Battens, 3rd and U/S. £38.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 3d. per ft. sup.
Yellow: 1st £62, 2nd £51, 3rd and U/S. £47 10s. per std.	Doors, 4-pan. sq. b.s., 2-in. 3s. 3d. per ft. sup.
Norwegian or Swedish:	Do. do. do. 1½-in., 2s. 6d. per ft. sup.
Boards, planed, U/S. £46 per std., equals 47s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 42s. 6d. per sq. of 1 in.	Do. do. do. 1½-in., 3s. per ft. sup.
T. and G. and matching, U/S. 43s. per sq. of 1 in.	If in oak multiply 6 times.
Wainscot, oak, 3s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Mahogany, 3s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Do. Cuba, 4s. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 8s. 6d., 1-in. 10s. 6d., 1¼-in. 13s. 6d. per yd. sup., average.
Teak, 3s. 9d. per ft. sup. of 1 in.	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. per ft. sup.
	2-in. deal strings, fixed, 3s. 9d. per ft. sup.
PLUMBER.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 66s. 6d.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 1s. 9d. per ft.
————	Do. ¾-in., 2s. 2d. per ft.
Lead, milled sheet, 51s. 6d. per cwt.	Do. 1-in., 2s. 7d. per ft.
Do. drawn pipes, 52s. per cwt.	Do. 1¼-in., 3s. per ft.
Do. soil pipe, 56s. 6d. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 8s. per ft.
Do. scrap, 23s. per cwt.	Do. 3-in., 8s. 9d. per ft.
Copper, sheet, 2s. 8d. per lb.	Do. 4-in., 12s. 6d. per ft.
Solder, plumbers, 1s. 5d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Do. fine, 2s. 1d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 7d. per lb.	Do. 4-in., 3s. 5d. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
L.C.C. soil. 2-in. 5s., 3-in. 7s. 6d., 4-in 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 1d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 43s. 6d. each.
	Baths only, with all joints, 34s. 6d. each.
	Lavatory basins only, with all joints on brackets, 26s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing, in putty, clear, 21 oz. 1s. 4¼d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7¼d. per ft.
Cathedral, ordinary, 9¼d. per ft.	Glazing in beads, 21 oz. 1s. 2¼d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Do. double, 1s. 0¼d. per ft	Patent glazing in rough plate, normal span, 2s. to 2s. 3d. per ft.
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 6d. per ft. sup.
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 33s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 65s. per ton.	Angles, rounded, Keenes on Keenes, 9¼d. per ft. lin.
Do. fine, 66s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3¼d. per ft. lin.
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 2d. per yd. sup.
Genuine white lead, 85s. per cwt.	Do. subsequent coats, 1s. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 1s. 9d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 10s. per gall.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
	Stripping old paper and preparing, 2s. per piece.
	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Distemper, washable in ordinary colours, 55s. per cwt.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
	Do. each subsequent coat, 1s. 1d. per yd. sup.
Petrifying liquid, 3s. 6d. per gall.	
Double size, 6s. 7d. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	
Do. Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per ton
Erector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt.
Cast-iron, heavy	Fixing only corrugated sheeting, including washers and driving screws, 1s. 5d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £46 per ton.	
Do. Galvd., £57 per ton.	
Corrugated sheets, black*	
Do. Galvd., £55 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	

NOTE: The prices have been amended to cover the recent increases in Railway Rates.

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Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended January 24 numbered 273. The total number of schemes submitted by local authorities and public utility societies is now 8,380, comprising about 60,000 acres. The schemes approved now number 3,942 and comprise about 33,500 acres.

Building Sites.

Schemes Submitted.—The number received from sixty-six local authorities was 270, comprising 486 acres, and bringing the total number of schemes promoted by local authorities to 8,270, covering approximately 57,000 acres.

Schemes Approved.—The number of schemes approved was 199, bringing the total number approved to 3,904, comprising about 32,550 acres.

Lay-outs.

Schemes Submitted.—Eighty schemes were submitted by forty-eight local authorities, bringing the total number of schemes submitted to 2,296.

Schemes Approved.—Seventy-one schemes, promoted by forty-four local authorities were approved, bringing the total number of schemes approved to 1,574.

House Plans.

Schemes Submitted.—Schemes representing some 4,727 houses were submitted by sixty-two local authorities. The total number of schemes submitted represents 92,678 houses.

Schemes Approved.—Schemes representing 3,220 houses were approved. The total number of schemes approved represents 76,729 houses.

Competition News

Houghton-le-Spring, Durham.

Designs are invited by the Durham County Council for a mixed school for 350 pupils to be erected at Houghton-le-Spring. Premiums of 200, 100, and 50 guineas are offered for the designs placed first, second, and third respectively by the assessor. The author of the winning design will be appointed architect for the work, but should it not be proceeded with within twelve months of the award he will be entitled to receive a sum equalling 1½ per cent. of estimated cost, but not exceeding 500 guineas in settlement. This sum is to be considered part of his commission should the work proceed. Questions relative to the competition to be addressed to the Director of Education, Shire Hall, Durham (from whom copies of conditions may be obtained), not later than February 14th, 1920. The closing date of the competition is March 31st.

Chatham.

Designs are invited by the Chatham Town Council for the lay-out of a fifty-acre site for working-class dwellings. A premium of £100 will be awarded to the author of the selected plans, whose final acceptance is subject to the approval of the Ministry of Health or the Housing Commissioner for the district. The closing date for the competition is February 9th. Printed conditions of the competition may be obtained from the Town Clerk, Town Hall, Chatham. (The conditions have been amended to comply with the requirements of the R.I.B.A.)

Our Small Advertisement

A number of interesting small advertis-ments will be found on page xxviii.

Messrs. Unsworth and Triggs, arch tects, of London, require an assistant t manage a country branch office.

An architect's and surveyor's assistan with twenty years' experience, is open t assist with the preparation of bills of quan tities.

An advertiser is willing to render arch tectural assistance to London architec and builders.

Blanchford and Co., of Exeter, wish t undertake the typing and lithographing o specifications and bills of quantities.

A young sculptor, ex-student of th Paris School of Art, desires employme as assistant or modeller to an architect.

Designer and draughtsman of decorati metal work seeks engagement with London firm.

An Australian officer is prepared to re present an English firm or agency on com mission basis.

On February 10 the Ministry of Mun tions will hold a sale by auction of hu ments at Danson Park Hutment, Wellin London, S.E.

The centres for the examination o membership of the Society of Architec closes on March 6. Copies of the syllabu may be obtained at the offices of th Society, 28, Bedford Square, W.C.1 Telephone: Museum 942.

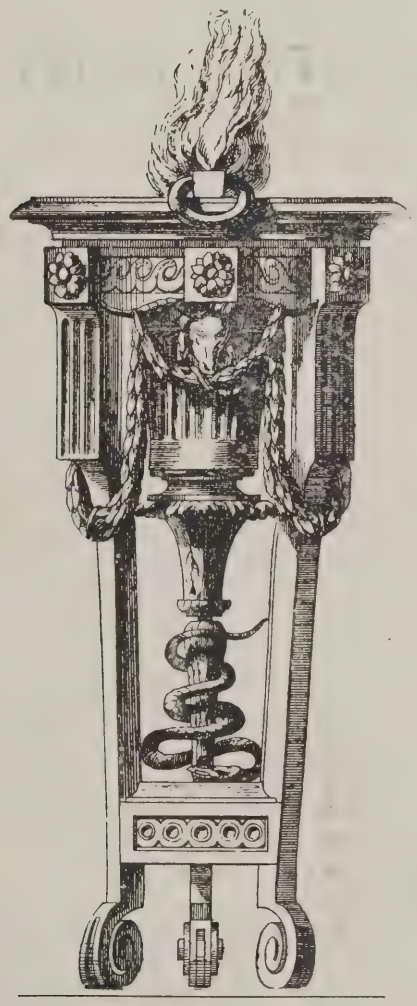
Sicilian and coloured marble, in block scantlings, etc., are to be sold at the Sic lian Marbles Co.'s premises at Liverpo by auction on February 9.

ednesday, February 11, 1920

Volume LI. No. 1310

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



DETAIL BY DE LA FOSSE (V.).

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 5.—Palazzo Canossa, Verona

San Micheli, Architect

San Micheli, having done much engineering work, especially on fortifications, was apt to keep his architecture severely plain, and the Palazzo Canossa is, for him, unusually ornate. In general treatment, however, it is characteristic—a rusticated lower storey with an order above it, the windows between the pilasters having, as usual with him, plain flat-faced archivolts. Except for a little coarseness in the balustrade, the composition is beautifully rhythmical.

THE
ARCHITECTS' JOURNAL
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Wednesday, February 11, 1920 Volume LI. No. 1310

Building History Repeats Itself

A FREQUENT theme for writers of fiction is the tendency of the individual to imagine himself as some unique creation. He is burdened, it would appear, either with qualities and aspirations, or with griefs, of such a kind as to differentiate him entirely from his fellows. His subsequent disillusionment upon discovering that his presumed peculiarities are, for the most part, shared by mankind in general, is pathetic as well as ludicrous. He has, in fact, indulged in excessive introspection, thus failing to orient himself in relation to his surroundings.

So, too, it is easy to deceive ourselves into the belief that the contemporary problems of the day are of a nature the like of which has never been previously encountered. Yet an investigation into the annals of the past will frequently reveal similar situations which present well nigh the identical difficulties. Such a discovery may well prove the source of no little comfort. For on the one hand it may offer suggestions for the successful handling of the present situation, and on the other hand it may show how difficulties, which appear to those in their midst to be almost insuperable, were ultimately overcome in the past, thus allowing the natural inference to be drawn that they may be successfully negotiated once more.

Certain passages from John Gwynn, which were written in 1766, and have been appositely quoted by Mr. W. R. Davidge, show very strikingly, not only the similarity of the situation, but also of the method of expression prevalent in the present day. The author states his amazement at the shortage of houses, and offers various suggestions to account for the sudden increase of population in the metropolis; suggestions strangely akin to those put forward to-day, even to the extent of endeavouring to attribute the existence of the large fortunes of certain individuals to the "profits of a successful war." The same writer states that, "notwithstanding the amazing increase of buildings, houses are still procured with difficulty, and the rents of most are perpetually increasing." In another passage is to be found a lament over the fact that much of the building work is to be entrusted to the hands of persons ill-equipped for the task; a state of affairs which persists to-day, and which is to no little degree responsible for so many regrettable delays.

"Made-downs" were the subject of legislation during the reign of Queen Elizabeth. It would appear that then, as now, houses were made to accommodate several families, and public health became menaced. Furthermore, the parallel between the two periods can be extended even to the inclusion of the conversion of large houses, originally built for the delectation of the wealthy classes, into tenements—the very process, it may be presumed, which is now proceeding so rapidly in London. The "Acte againste newe Buyldings," which was cited in Mr. Davidge's paper, was introduced "for the reformynge of the great mischiefes and inconveniences that daylie grow and increase by reason of the pestering of Houses with diverse Famylies and converting of great Houses into several Tenements or Dwellings (as well as the erectying of newe Buyldings) whereby great Infection of Sickness and dearth of Victualles and Fewell hath grown and ensued."

Another eighteenth-century writer, one Stephen Riov, feels the necessity for some rather more comprehensive town-planning scheme for London than any which existed at the time. It is evident that a map such as the one recently prepared by the London Society was required even at that period. Riov draws attention to the interesting fact that a map intended to perform a similar service was in existence in Paris at that time (1768). After pointing out how a century earlier but poor use had been made of the opportunity offered by the great fire for the inauguration of a really efficient scheme, he says: "It (London) may literally be compared to a whitened sepulchre, fair without, but within full of rottenness and dead men's bones; and although every alteration that might tend to remove entirely these nuisances could not take place but very slowly, yet by a proper attempt it might be begun: it is said, that in the Town Hall at Paris there is hung up a map of the city, with such improvements marked out upon it, as are judged necessary, which by degrees are brought about as opportunity offers." Thus wherever search is made the very troubles and remedies of our time are found to be anticipated; surely a truly comforting thought.

Certain phases it is evident must be peculiar to the special physical conditions of the day. It is doubtful, for example, if a most diligent examination would disclose any equivalent to the harassing "press stunts" which have recently done so much to divert energy and attention from the genuine problems of the moment. The growth of Trade Unionism has created situations for which no very precise parallels are to be found, and the benefits accruing out of the increased means of every description of intercommunication have not been entirely unaccompanied by certain difficulties, such as the enormous development of centralisation and its concomitant dangers, for which the past can offer no assistance.

It might, however, at least have been thought that the present state of public ignorance and apathy towards architecture was an evil of which our fortunate ancestors had no knowledge. Yet this appears not to be so, for in Leeds' Supplement to Britton and Pugin's "Public Buildings of London," written in 1838, are to be found sentiments curously similar in every respect to those which are now so frequently finding expression. In the preface he says: "None have greater cause to lament the popular ignorance in regard to the art (architecture) than architects themselves." And on another occasion he writes: "In proportion as architectural topics can be made to engage general attention and rendered matter of conversation and discussion in society, so will the public take a livelier and more extended concern in the art." The situation agrees

with our own even to the further extent that Leeds blames the profession itself for this deplorable state of affairs.

Indeed, in proportion to the thoroughness of the examination of past writings, so will be found parallels for the present situation, and most of its countless ramifications. Among the many changes and reforms which are being advocated in connection with theatre design, one of the most insistent is that which concerns itself with lighting, and in particular with the total or partial abolition of the footlights. George Saunders in his "Treatise on Theatres," written in the year 1790, anticipated the present movement when he wrote: "Monsieur Patte has proposed a method to light the *avant-scène* without that tormenting line of lamps at the front of the stage which wrongs everything it illuminates."

As for the quest for a new style, and the accompanying discussion, it is ever with us. The more adventuresome, in their intrepid eagerness to startle, fly too near to the light and, having singed their wings, return in chastened mood. Just as we ourselves are the expression and outcome of all that has gone before us, the consummation of countless generations constituting a never-ending chain to which new links are ever forged, but whose continuity can never be disturbed, so is it with architecture. To break with the traditions of the past is impossible. Here and there may be found an excrescent growth, which flowers and withers and is forgotten, here and there an aberration, but architecture, like the human race itself, is one long endless chain, the never-ceasing process of the past projecting into the future, the future turning into the past. Let those who feel acutely the problems of the day, which seem to press on all sides with such menacing persistency, take courage, for looking back they will observe how similar problems have been encountered, similar difficulties overcome.

H. J. BIRNSTINGL.

Notes and Comments

The President's Address

EVERYONE was delighted to find that Mr. John W. Simpson was able to read in *propria personâ* his admirable address at the R.I.B.A. prize-giving. It is strange how very stimulating this special occasion always has been to the presidents of the Institute. Ten or a dozen of these addresses would make an interesting volume, which would be packed with interesting personal reminiscences, mature judgments on life and art, and what has been irreverently called "sage stuffing for green goslings," but what we should prefer to term the counsels of Nestor, who was "renowned for his wisdom, justice, and knowledge of war." If Mr. Simpson's paper was at all exceptional, it was in its extraordinarily high quality as literature. To say that it fully maintained the traditional level would be high praise; and to say that it transcended it would savour of flattery; but we certainly think it did. In its matter it was illuminating and inspiring, and the manner of its delivery revealed the president as an excellent reader—a rare accomplishment in these degenerate days. Contrary to anticipation, the President made no specific announcement with respect to the new scheme of education, which, we may therefore infer, is still immature.

Modular Theories of Art

Mr. John W. Simpson's views on the modular theories of art are, we think, exactly what might have been expected of him, and therefore eminently sane; but we were nevertheless glad to hear through him that the latest exponent of the proportional theory, Mr. Hambidge, is likely to be heard at the Institute. Mathematical theories of art are, of course, by no means new. Years ago, the eminent French architect M. Victor Laloux had occasion to remark, in the preface to one of his architectural manuals: "The study of the orders clearly demonstrates that no fixed rule guided the architects, and that, contrary to the writings of Vitruvius, whose opinion prevailed so long, the relations between the dimensions of the different elements of architecture were extremely variable, and entirely subjected to the caprice of the constructors." Art cannot be reduced to an exact science; else it were not art. As Mr. Hambidge is to be asked to expound his theory at the Institute, it would be ungracious to prejudge it. In any case, however, Mr. Hambidge may be well assured of a cordial reception as well as a fair hearing, even were his theory less reasonable than undoubtedly it is.

Architects and "Advertising"

"Canons of Ethics" are a feature of the constitution of the Illinois Society of Architects. Canon No. 14 has just been amended to read as follows: "The principle of truthful advertising of the progress and achievements in architecture as exemplified by the profession or the individual is commendable. The placing of the architect's name on a building during construction, and the signature of the architect on the building after completion, is [?are] recommended." As to the exact meaning of the first sentence in this canon, one is rather in the dark, and we are specially perplexed by the expression "truthful advertising." Is there any other kind? Personally we see no particular reason why architects should not advertise their progress and achievements—truthfully, of course, and with decorum. As to the placing of the architect's name on the building in progress, it is doubtful whether he would like to compete with the builder and the specialist contractors in the exhibition of blatant boards. (Why are builders' signboards always so atrociously ugly?) An unfinished building may benefit the contractor by its frank display of internal economy, the sight of the horrible viscera and other distressing details begetting confidence that the materials are good and the construction is sound; but it destroys all idea of decent design. As a rule, the architect hates to have his building seen until the hoarding is down, the putlog holes are filled, and the windows are nicely polished. As to signing a building permanently, the architect knows that this custom might in many instances turn to his disadvantage—as, for instance, when the building represents an outgrown phase of his development or an outworn fashion of his early days. Otherwise there is nothing to say against a practice followed by the ancients.

Street Statuary

Does the artistic temperament incline to criticism? A writer on "Our Growing Statuary," in the "Globe," thinks that it does, but we are disposed to doubt it. An egotist here and there will be constitutionally disposed to disdain everything that he did not do himself, but his temperament is exceptional. More often the architect, for example, is fastidiously and severely critical of his own work, and generously lenient in his judgment of the work of others. But the writer in question is much safer in his observation that "it is strange how much abuse and ridicule are always poured upon London's attempts to add to her artistic beauties." This is true enough; the English habit of disparaging native art being inveterate, and our outdoor statuary, in particular,

ing itself with facility to the process, whether by its exposure to criticism and the weather, or by its own innate badness. Yet there is truth as well as audacity in the author's assertion that "London has every reason to be proud of her monuments, among which are some of the finest specimens of the sculptor's art." Further, one cannot but agree with the author that the quite undistinguished Duke of York should not have been accorded a column only slightly inferior to that on which Nelson stands, and that it is difficult to see why the Duke of Cambridge should be given the place of honour in front of the War Office. An artistic sense of proportion should have prevented such absurdities. Some day it will rectify them.

High Cost of School Buildings

Sir Henry Hibbert, presenting the education budget to the Lancashire County Council, made an alarming statement about the increased cost of school building. Before the war the cost was £40 to £50 a head. It is now £140 to £150. He was afraid that building operations would have to be suspended. They will certainly have to be cheaper, or educational progress will be gravely hindered. The situation demands experiments, more systematic than any yet undertaken, with the newer and lighter materials of construction recommended in a Blue Book issued before the war. The Minister of Education should at once convene a conference of educational authorities, with their architects; and the R.I.B.A., the Society of Architects, and the National Federation of Building Trades Employers, should be invited to attend it. For this is clearly a matter of the most serious national importance, and one in which, we are sure, the organisations named would feel it to be a patriotic duty to tender freely the best possible advice. Mr. H. A. L. Fisher should take the matter in hand without delay.

Dr. Addison on the Olympian Heights

At the opening of the Ideal Home Exhibition at Olympia last Wednesday, the Minister of Health hazarded the opinion that "a room with a ceiling 8 ft. high was as good as one 8 ft. 6 in high." It may be so in certain instances; it is mainly a matter of cubical content, appearance being a secondary but by no means negligible consideration. Dr. Addison mentioned, in a tone of injured innocence, that his Ministry had been accused of being reactionary and encouraging slums "because they had tried to save £20 a house in this way." Angry deputations had protested against it; and, on general principles, we have no hesitation in saying that they did well to be angry, for it has not yet appeared that this cutting down has the sanction of the accredited authorities on hygiene. If the height of 8 ft. 6 in. was decided upon after due deliberation by hygienic experts, then its alteration on the score of so-called economy is arbitrary and reactionary. Circumstances alter cases, and might either require the greater height or safely admit the less; but it is certain that the former is the safer for general adoption, and Dr. Addison should have been more explicit on this point. It was odd to find him laying so much stress on "economy" at an exhibition showing the results of a competition avowedly held to secure "the ideal home" without any special regard to cost; and the exhibition will serve a very useful purpose if it makes many converts to the larger and purer faith that, within due limits, the house which is relatively dear to build is in the long run the more economical. But the architect's argument on this point has not hitherto greatly prevailed against the average client's unholy craving for initial cheapness. On one allusion in his speech at Olympia we are in entire agreement with Dr. Addison. He thought the innate conservatism of the British prevented the free adoption of new methods and materials, and he implied a suggestion that this habit of mind could be altered. We are quite sure that it could, by making known clearly and incessantly the merits of the less familiar resources.

Mr. Andrew Gow, R.A.

Mr. Andrew Carrick Gow, R.A., keeper of the Royal Academy, whose death, at the age of seventy-two, occurred at Burlington House on Sunday week, will probably be acclaimed by a later generation as a greater painter than in his own day he was held by the critics to be. His pictures of historic incidents made a popular appeal, but by the superior person he was belittled as an exponent of what they were pleased to term the Mid-Victorian anecdotal school. It may hereafter be found that the democratic opinion will be upheld, and the judgment of the supercilious reversed. Deliberately to rule out from the domain of art any subject such as history is simply to be guilty of snobbish impertinence. Gow made historical incident vividly dramatic, and the estimation in which his skill was held by the sane was marked by his election as A.R.A. in 1881, immediately after his exhibition of "No Surrender" and "The Last Days of Edward VI." Mr. Gow became a Royal Academician in 1891, and on the death of Mr. Ernest Crofts, in 1911, was elected to succeed him as Keeper of the Royal Academy, an office which carries a salary of £800 a year and free quarters at Burlington House.

The R.A. Exhibition Regulations

The "notice to artists, 1920," with respect to the Royal Academy Exhibition which is to open on May 3rd, closing on August 7th, contains a paragraph that has a most important bearing on the architectural exhibits. Photographs of architecture and architectural sculpture will again be admitted, but must not exceed half-plate size, and each must be included in the same frame with a working drawing of the same subject. On the whole, this regulation, though restrictive, seems wise. It discourages any tendency to let photography supersede drawing, or to develop the department photographically rather than architecturally. Undue dependence on the camera might in time result in the decay of draughtsmanship. Further encouragement to architectural drawing is implied in the acceptance of "good geometrical drawings of moderate size." Obviously this regulation opens the door to the man who may be a good architect but a poor draughtsman except with rule and compass, and it should result in a large increase in the number of exhibits. An artist other than the designer may do the drawing, but his name must be clearly inscribed on the mount; which is only fair to him. That his name will not appear also in the catalogue is only fair to the architect who employs him. The omission may prevent confusion as to the authorship of the design.

"Art Teaching for All"

A most interesting discussion on art teaching is current in the "Times Educational Supplement." Mr. C. B. Andrews deprecates the present isolation of art, and believes that the remedy lies in the artistic improvement of pursuits already popular—such as photography. "If once the public could be made to realise that art is not concerned merely with artists in the usual sense of the word, . . . there would be a great advance in the artistic appreciation of the community." The noun "art" should cease to exist, giving place to the adjective "artistic," "which should be applied to all original, expressive, and sincere work, be it drawing or photography, writing or book-binding, architecture or house-building." Mr. R. E. Green, supervisor of art teaching to the Wigan education authority, mentions that the northern universities have this year introduced into their school certificate drawing examination a section which includes architecture, painting, and sculpture; and he says very justly that true teaching should direct closer attention to everyday things, and should awaken an intelligent conception of what is fine.

C

Architectural Causerie: On Bollards

IT is astonishing how little attention is given in these progressive times to the study of minor features of our everyday environment; objects that, considered separately, are in themselves almost insignificant, but that, taken collectively, mark national characteristics. For example, the lampposts of England; and, for that matter, the whole assemblage of bollards, milestones, finger-posts, boundary stones, gate piers, and all sorts of terminals. For some unknown reason we all inherit a feeling of disrespect for a post or terminal of any sort; formerly the saying "As stupid as a post" was common currency. Yet the majority of these features, especially the ancient ones, have a certain dignity and character far removed from stupidity. In fact, for centuries, posts have afforded wisdom to persons unnumbered. The Egyptians, Greeks, and Romans paid special veneration to boundary marks of every description. Numa instituted the worship of the God Terminus, whose duty it was to preside over all boundaries and frontiers; and it was the bounden duty of all good Romans to mark the extent of their land by stones consecrated to Jupiter, and on an appointed day each year to offer sacrifices at these stones in celebration of the festival of the Terminalia. Most people, in spite of inward feelings of disrespect to all kinds of posts, are, notwithstanding, sufficiently superstitious to touch as many as possible in their daily peregrinations. Have we not the classic example of Dr. Johnson and his love for the bollards of Fleet Street and the Strand? Now, it is the purpose of my pen to vindicate the honour of all good posts, especially in view of the fact that the leading town-planners attach considerable importance to such furnishings of streets and roads.

* * * *

Of the whole family of posts, none are more serviceable than those arranged in orderly formation to carry the lanterns of London town. The oldest of the band are not more ancient than the founding of the police force, with whose members they have much in common. We can admire the proportion of the pedestal to the shaft; note the outstretched baton ready for the cleaner's ladder, observe the chinoiserie of the lantern, and, what is more important, we can determine any particular parish without having recourse to the nomenclature, solely by remembering standard types. Although the lampposts of London belong to the universal family of Carron, and to the unobservant appear alike, the initiated take in subtleties of shape apt to be overlooked in the daily rush. It is a pleasant occupation to speculate on their signs of civilisation. Gone are the wrought-iron standards attached to the area railings of half the old houses in residential districts, once fashionable. Holland's lampholders between the Ionic screen at Carlton House vanished when Nash worked on the uniform for the Crown. There are a few of Holland's standards rising above the railings fronting Hamilton Place; there are the standards devised by Soane round the green carpets of Lincoln's Inn—now, alas! bereft of the original globes: there are the uprights of Cartwright Gardens, the giraffe brackets of Mecklenburgh Square, mourning the passing of their years of office.

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The design of lampposts surely falls within the province of the architect. Soane's lamps to the Bank are a source of wonder, and the ornate lampholders marking the gigantic sweep of the Embankment are among the good things of the Victorian legacy. Some of us have a sneaking regard for Vulliamy's lamp standards near the equestrian statue of the martyred Charles; and only last month Professor Lethaby was admiring the miniature lighthouses designed by Sir Charles Barry to enrich the circular piers of Trafalgar Square. The main issue is, When did the lampposts of England first develop a foreign look? The answer is, When electric lighting came in. Instead of putting the new flame into the old lamps, the Alladins of the 'eighties accepted the showy new lamps without a thought of beauty or fitness, and sought to light the stars rather than the pavements. Old John Nash and the exponents of the new-fangled gas had a better notion of the theory of street lighting. If we desire to increase our knowledge of lampposts, we cannot do better than turn over the pages of Bury, and, if we need further satisfaction, consult the line drawings in the Cottingham collection.

* * * *

From lampposts we pass naturally to a discussion of the bollard or boom, the design of which reached perfection in France during the régime of Louis the Sixteenth. In this connection the obelisks and railings protecting Westminster Abbey must not be overlooked, especially as there is reason for thinking that Vardy had a hand in the shaping. Sir William, too, without a doubt, had something similar in mind when he designed the fence railing to the Strand front of Somerset House, an idea borrowed by the observant artist when he visited Paris in 1775. Throughout the eighteenth century bollards were frequently formed by building disused cannon into the pavement. It was a practice favoured especially by retired admirals, and post-captains, who had convenient access to laying-by stores, and desired to have some nine-pounders, captured from the enemy, under their immediate surveillance. Such was the case in St. James's Square, and doubtless the realisation of the same idea at Hampstead gave the name to Cannon Row. When George the Fourth was King the bollard came to stay. You can see them now, in the neighbourhood of Regent Street, truncated obelisks of cast-iron, grooved and filleted with the winsome legend "G. IV." across their middles. Jolly old bollards, real Corinthians of the Regency, unperturbed at the sound of the pickaxe, leering at the passing omnibuses with the familiarity of ancients, who have seen the first steam carriage clank past on its cinderous journey to Bath.

* * * *

A word of protest must be raised against the disappearance of the old signposts in country districts, and the substitution in lieu thereof of cast-iron signals with bad lettering. Better by far the crazy wooden post, with its Caslon type and scornful finger directing the traveller than the worst product of the mechanical age. Signposts are among the most generally appreciated of inanimate objects; so are the old milestones on the grand trunk roads. Let no spirit of parochial Bumbledom disturb such venerable monuments as Telford designed to grace the Holyhead Road.

* * * *

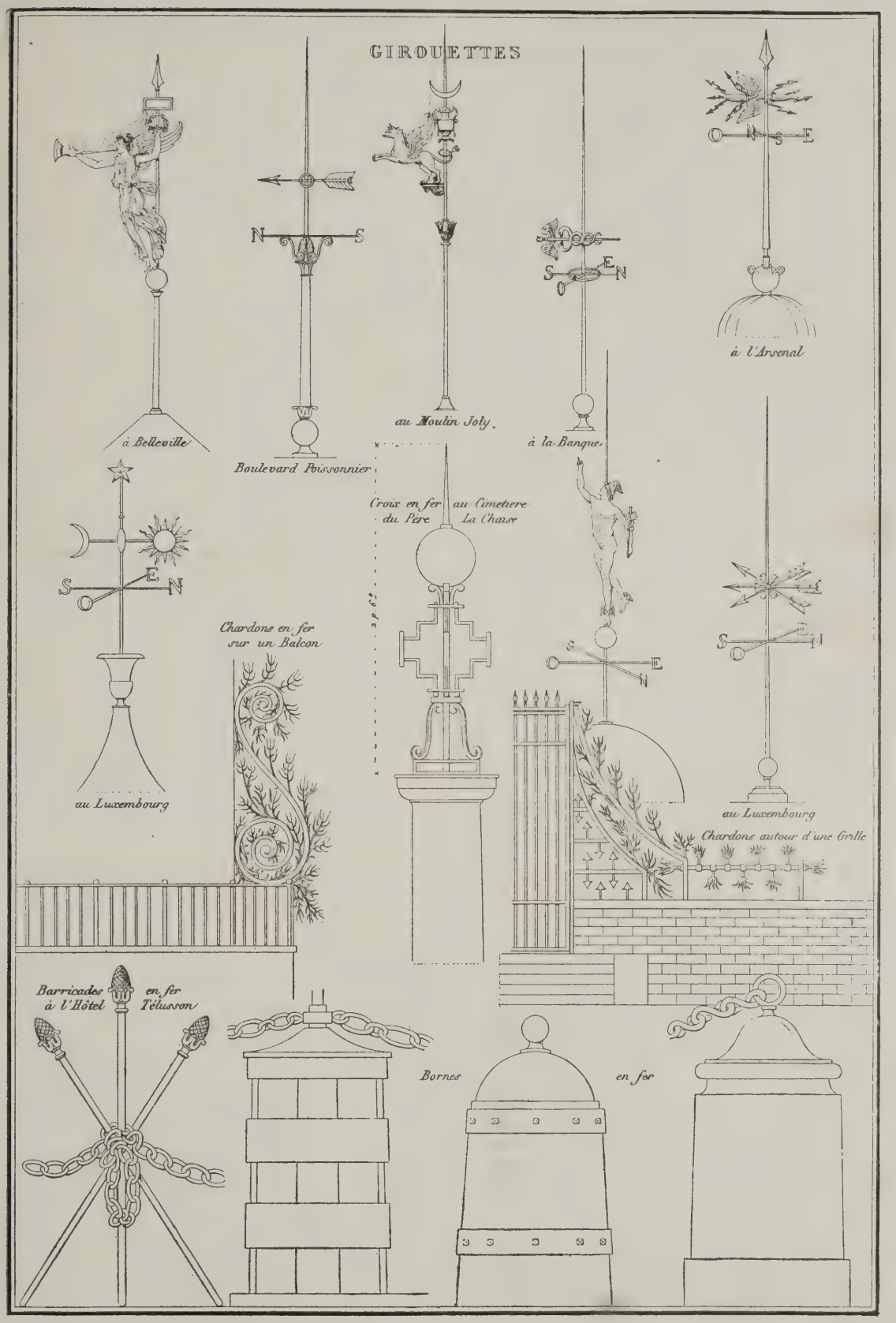
You will say What have architects to do with such things. The answer is, Everything. The public demand that the amenities of communal life shall be observed with decency. We cannot in these expensive times hope for a return to stone obelisks like those at Ampthill or Alconbury to serve as direction posts; neither can we hope that the obelisk of St. George's will step from the grounds of the Asylum at Kennington and take its stand on the site of the tobacco tower.

* * * *

Sir Cecil Smith is advocating the erection of a number of tablets at the entrance to every village and small town in England, giving a summary of the local objects of antiquarian interest in the district. There are plenty of motifs for this idea to be found among the directional monuments of this country; would it not be a step in the right direction to combine the idea with the design of projected war memorials?

AERO.

French Metalwork. 5.—Architectural Accessories



Bury's designs of Louis Seize and Empire metalwork include specimens of vanes, weathercocks, chevaux de frise, bornes, and bollards. Most of the designs illustrated still embellish certain quarters of Paris.

Classic Architecture in the West of England

FOR some years past it has been the aim of the JOURNAL to give illustrations of local examples of the English tradition, and in pursuance of this policy a further series of buildings, large and small, civic and domestic, will be reviewed from time to time as part of a series. By this means we shall draw attention to the merits of buildings in Devon and Cornwall. In the main the buildings selected for illustration comprise eighteenth and nineteenth-century work, affording examples of brick, stone, and slate—hanging, stucco, and thatching—in fact, all the attributes of local practice from Taunton to Penzance.

With the revival of agriculture and mining as well as the abnormal development of the three naval towns, considerable interest attaches to this series. The classic tradition in the West country reflects similar features to other branches of the genealogical tree throughout the country, with the exception that in the West the work is broader in handling, and relies solely upon proportion for effect. The tide of design flowing steadily westward from Bath and Bristol in the early eighteenth century was augmented by a slight Dutch influence at Topsham, while the fishing villages of the south-west coast took on some of the colour of similar places on the other side of the Channel.

Many famous architects have contributed to this tradition. Vanbrugh was engaged at Devonport to construct the Gun Wharf. Gibbs built a large mansion in Cornwall, and a host of small builders interpreted the fashions of London, Bath, and Bristol, by means of carpenters' guides and builders' darlings. At the beginning of the nineteenth century fresh impetus was given to the movement by Alexander, who built the one prison on Dartmoor, as well as by the enthusiasm and organising abilities of Sir Thomas Tyrwhitt, who introduced architecture on the moor.

John Foulston practically gave Plymouth its present style. Sir John Rennie built the Victualling Yard at Stonehouse, and Wightwick continued the good work until the late fifties. To describe fully the work of architects in the West of England would need an army of contributors, and the preparation of volumes on the scale of the Victorian County History. The Editors of the ARCHITECTS' JOURNAL will welcome any information likely to throw light on the subject, and will be pleased to consider photographs and notes for publication.

With regard to the illustrations given with these notes, a few words of description may be of interest. The house shown below was designed by John Foulston (whose Ball Room at the Royal Hotel, Plymouth, it may be recalled, was illustrated in this journal for December 10 last). St. Michael's Lodge, as the house is named, stands on a site at the eastern extremity of the terrace at Stoke Davarel, formerly a suburb of Devonport. It is a good example of Foulston's treatment of stonework. The three-light windows on either side of the circular enceinte form admirable sub-motifs.

The view reproduced on page 180 shows the remarkable series of bay and bow windows at the back of the west side of Durnford Street, Stonehouse. The designs of these bows are oddly reminiscent of the stern quarters of the wooden walls of George the Third's time. Such houses provided a fitting domestic environment for the naval officers of the day, who were greatly attracted by them.

The remaining illustration (page 183) shows a range of terrace houses in Durnford Street, Stonehouse. Their distinguishing features are good proportion, elegant doorways, slate-hanging, and variety in the iron and wood railings which surround the basement areas. These houses, also, were formerly the homes of naval officers, and to-day they form the nucleus of a most fashionable residential quarter.

ST. MICHAEL'S LODGE, STOKE DAVAREL, DEVONPORT. JOHN FOULSTON, ARCHITECT.

Architecture and Citizenship

By Major H. BARNES, M.P., F.R.I.B.A.

GREAT architecture is to be supplied, but it will only be if great architecture is demanded. And who will demand it? This is the question. In the past it was the conqueror, the priest, the prince; in the future, will it be the citizen? I think those responsible for the address on the subject-matter of this article* given recently before the Royal Institute of British Architects are to be commended for realising that the function of such an Institute is not only to enable great architecture to appear when demanded but also to stimulate the demand for great architecture. I can imagine that not so long ago an address on "Citizenship" would have been regarded as outside the province of an architectural society. Not so to-day.

There can be little doubt that we have a broader and, I think, a deeper view of the inter-relation between great life and great art. It was said that a people had the Government it deserved. It might be said with equal truth that they have the Art. But when one comes to consider the deserts of a people it is not possible to dissociate from the past its responsibility for the present or from the present its responsibility for the future. Though we are content to-day with buildings largely devoid of emotional appeal, whose best claim is their utilitarian merit, it may be that the fault lies somewhere in the conceptions which governed the education and upbringing of the present generation. I for one see no possibility of great art without an urge of corresponding greatness. Great works of architecture are not produced without great effort and great expenditure, and to induce men to acquiesce in such effort needs more than the coercion of authority and power.

They say slave labour built the pyramids. It may be true, but I cannot help believing that from Pharoah to peasant there passed and repassed some common impulse which impelled the one to plan, the others to execute, these immemorial monuments. In imperial Rome the ordinary citizen, thrilled with the exultation of conquest, saw in the glories of his city more than the vanity and display of victorious pro-Consuls. It imaged to him something of his own personal pride, that individual arrogance crystallised in the boast "civis Romanus sum." If a tenderer feeling took its place in mediæval days it was no less widely spread. Do not ask me to believe that the magnificence of the Christian churches would have been possible without the Christian Faith. They are monuments of sacrifice. Sacrifice of time and effort, of money and material that could have been devoted to more pleasurable ends. Men do not part with the means

* It will be recalled that Mr. Ricardo in his paper laid emphasis on the position of the architect as a civic missionary and urged the necessity for taking stock of propaganda work and considering how far fresh effort is requisite and what direction it should take. In this Journal last week it was suggested that Mr. Ricardo's paper should be reproduced in pamphlet form and circulated as widely as possible. It would give an excellent start to the propaganda on which the Institute should enter with vigour and courage and without delay.—Eds. A. J.

DURNFORD STREET, STONEHOUSE: BACK ELEVATIONS.

(*See Article on page 179*).

Modern Ecclesiastical Architecture. 3.—Pulpit in Church of St. Joseph, Newport, Co. Mayo

R. M. Butler, F.R.I.B.A., Architect

Mr. Butler has designed an effective pulpit of vigorous character for his new church at Newport. It is interesting to see how successfully an antique theme can be developed for adaptation to modern usage. A plan and an elevation of the church were given in our issue of December 3, 1919.

of personal gratification except under stress of some powerful emotion. So, turn where you will, east and west, in Pagan and Christian times, the soil of great architecture has always been fertilised by the devotion and enthusiasm of men inspired by common purposes to move towards some common end. Has all that passed? It began to go, I think, with the Renaissance, or, at least, to change its form. The power of the priest waned, and in his place appeared the patron. What was to be satisfied now was not a common call, but individual demand. It may be that what had something of the divine became tinged with the humane. I am far from underestimating the pleasure which comes from contemplating the works of those who laboured to gratify the wishes of the great patrons of the sixteenth and seventeenth centuries. No one reads with more pleasure or realises more the sensuous satisfaction underlying the demands of this connoisseurs and art lovers who find their prototype in Browning's poem, "The Bishop Orders His Tomb at St. Praxeds." At least, the rich men of those days had taste and an appreciation of the artist's work. Nor would I pass by the impulse to architectural achievement which found its lodging in the breasts of the merchant princes of Italy, of Germany, and, indeed, of this country. The great Cloth halls and Guild halls, the belfries, and city gates remain to remind us that commerce need not preclude culture, may, indeed, companion it. I am, in fact, not sure that when I ask the questions—Is this spirit I have dwelt on the spirit of the past? Is there no seed of it left to-day? I do not find the answer in the communal achievements of the past. One hopes the days of conquerors are gone; one may perhaps be forgiven the thought that the faith of the future will be lodged in houses not built with hands; and if there is, and surely there must be, a great reblossoming period of the builders' art, will not its stimulus and source be found in the growth of a wider, better, and nobler conception of citizenship? I cannot see great architecture without great rituals. Great rituals cannot come except as the organs through which a common faith function. How are these to arise? The military ritual demands the camp, the ecclesiastical the cathedral. What rituals of citizenship are to emerge that will require for their environment great works of wonder, admiration, and awe. It is hard to say. They cannot arise in private life; no conception of the future can be in harmony with the trend of things that does not envisage great simplification of our private life.

The great palaces of the past, those cumbrous piles with which Vanbrugh burdened the earth, lodgments of hosts of lackeys, are no more thinkable. The race of servants is disappearing. A new independence is coming into individual life. It is not to the satisfaction of the multi-millionaire that we can look for what we hope to see. It is in attributing an added breadth and dignity to public life, that we shall get a truer appreciation of the part it has to play in the enrichment of personality. In a fragmentary sort of way this conception is dawning upon us. We are gradually coming to see that at present the full development of life is limited to the few, that it has to depend on the individual direction and control of material wealth. The coming race must look elsewhere; the citizens of the future must find through communal resources the opportunities that are demanded by the capacities of men. What form these will take lies hidden. Of this only can we be sure, that larger life for all is somehow linked up with our corporate activities, and that the faith in ourselves, and each other, upon which this depends, will become as imperative an urge towards and as fruitful a cause of great architecture as these more mysterious movements of the spirit which animated the past.

TERRACE OF LATE EIGHTEENTH-CENTURY HOUSES, STONEHOUSE.

(*See article on page 179.*)

An Address to Architectural Students*

By JOHN W. SIMPSON, P.R.I.B.A.

YOU have but newly begun, and have already learned—not perhaps without some private surprise—how delightfully easy is the art you have embraced. Later, you may encounter more difficulty. I would not discourage you for worlds, but I may confide to you that in my early days I was myself an extremely accomplished and facile designer. As years went on the gift seemed to forsake me; it became less and less easy to please myself: to say nothing of others; and I have now come to regard any architect who can put up a building that is reasonably satisfactory both within and without as very nearly akin to a genius. So, while I still cherish the hope of doing one day something meritorious, I can claim for the present no more than a chastened humility, and some practical experience which is very much at your service.

For one thing I am sincerely grateful. I had the happy chance, in early life, of living in the intimacy of painters and sculptors, and knowing their work and their methods; I counsel you all to seek such society. Your own work may not interest them much, for the painter is apt to look askance at architecture, as a thing of which he knows nothing, and is not particularly anxious to know anything; while the sculptor seems to hold—as Dogberry did of writing and reading—that it comes by Nature ("give God thanks and make no boast of it"). To mollify any students of these arts who may be in our company to-night, I may add that, as regards the average architect's appreciation of the canons which govern painting and sculpture, it is not too much to say that the thought of them has never entered his mind.

These reflections bring to me a doubt I have often expressed, as to whether our narrowly specialised education in art is not radically unsound. Why is it we no longer find among us men who are adepts in painting or sculpture, or both—to say nothing of the Ars Poetica—as well as in architecture? Since the three sister arts demand in all essential respects the same attainments of manual skill and appreciation of beauty, joined with the poetic and creative temperament, a common initial training is surely indicated for the study of all three. This, which in my student days was impracticable, owing to the prevalent and time-honoured system of apprenticeship to a single master, would now mean no more than a fusion of the schools that have become as general for architects as for painters and sculptors; and this, as I believe, to our advantage. The elements of technique, such as the handling of material—paint, clay, or what-not—and the habit of mind which enables the artist to realise and design a cube object in plane projections are best taught in a school. The master, engaged in the practice of his art, has long forgotten, in the course of daily use which has become an instinct, the difficulties he experienced in acquiring his facility, and the way in which he learned it. The beginner can only wonder at his dexterity without appreciating his qualities, and he himself is out of touch with the tyro's troubles. There are, of course, men who take infinite trouble with their pupils, but this is, as it were, the cracking of nuts with a steam hammer. In a school all the elementary difficulties are constant, and both teacher and students ascertain quickly the readiest means of surmounting them; proceeding to successive stages of interest wherein practice brings improved technical ability. An active emulation, too, is far more keenly developed where many are working than where there are but one or two; and students learn more from their own mutual failures than from the teachers' instruction.

My choice, therefore, for the budding artist is a school rather than apprenticeship; and I would have students begin, each and all, with the representation of existing objects in geometric projection, in plastic material, and in line and colour. Having attained, in each method, some satisfactory degree of proficiency—whether tested by formal examination or not is unimportant—they would move into the class of design. There they should practise the elements of composition, rendered, as before, in the medium of each of the more important materials pertaining to the three great art divisions with which they are concerned. Here we may leave them for the present to reach a certain standard of ability. Already there will have been a weeding-out; some, at any rate, realising their small chance of becoming reasonably efficient and adopting other pursuits. The survivors will have found, by actual experience, the medium in which they can most readily express their ideas; and proceed as now to the higher technique of the art for which they are best qualified. The architects will have gained freedom and courage in the handling of mass, the others will be the better sculptors and painters for such glimmering as they may have caught of the suggestive beauties of a fine plan.

Now, though I have praised the school as most valuable in the early stages of our professional training, I would also warn you not to mistake the means for the end; not to stay there too long. If you remain all your life you will still not have finished your education in our art. Therefore, so soon as you have acquired fairly good technique hire yourself as assistant or "improver" to a practising architect, and get to work on actual buildings, no matter how small or unimportant. I remember, when first I came to London (with the usual bundle of drawings under my arm), calling upon a well-known architect. He received me kindly, but, "my dear fellow," he said, "I have little use for highly qualified assistance; so much of my work is mere building, not architecture at all!" I beg you not to accept any such fallacy. All building is architecture, however simple it may be, or appear to be. Some of it, we know, is very bad; that is the fault of the designer; there is always opportunity for doing it well instead of badly, and, it is more than likely, of saving your client's pocket at the same time.

The tendency of modern educational methods is to prolong the period of training, to demand ever higher attainment before releasing the student on his life's work. We may assume, generally, ten years as occupied by preparatory and secondary studies, and to these may be added three more for a University course. A good general education is of the utmost importance to those who propose to enter our profession; I would not abate it by a single line. But here we are, come to the age of twenty or twenty-one, before we attack the four or five years of technical study which is to carry us through our qualifying examinations. And there is talk of lengthening this term. I have myself just suggested a change which would hardly tend to shorten it, though I think the preliminary work I indicated might well form the basis for secondary school, certainly for University, art instruction.

It is a question for grave consideration whether prolongation of school training is justified by its results when tested by the meter of economic production. Is the fuller equipment, with which we begin our professional life, altogether a compensation for the youthful freshness we have spent in fashioning it? Education is a hobby with educators; they look with natural pride upon the ever-improving quality of their handiwork, and seek for it a still higher perfection. Yet, we are to remember that our working time is tragically short and by no means to be extended; it is easy to lop off years of preparation at its beginning: there is no hope to clap on others at its end to replace them. And it is just those early years which are fullest of vigour, imagination, and daring—qualities most needful to the artist; for he who attacks a great problem of architecture must do so with the confident courage that inspires air pilots and destroyer captains in their not less hazardous enterprises.

The value of the prizes and studentships we offer, the ambition of the subjects set, and the really astonishing degree of proficiency demanded to win them, tend to raise the age of competitors and to lengthen their school training. The magnificent productions of the French winners of the Prix de Rome are a glory to the Académie des Beaux-Arts; to gain the prize is to be made for life; but there is another side to the picture. So high is the standard of accomplishment needed that it is rarely won before the age of thirty, and that after three, four, five, or more successive years of struggle. What of the sacrifice of time by the unsuccessful in this purely scholastic competition? Even in our own less strenuous tourneys, I suspect that scrutiny of the lists of chief prize-winners might reveal a disheartening proportion of men who, having shot their bolt and scored a bull, were left with an empty quiver for more serious strife. It is undesirable that a deceptive excellence should be maintained in prize work; the object of such competitions is to stimulate all students, and the purpose of the award is to encourage the tyro best fitted to profit by its provisions, not to glorify him who has the advantage of longer practice. For this reason I think the qualifying limit of age should be kept low; twenty-five at the outside.

I had thought of devoting my address—or some part of it—to the "Rectangles and Whirling Squares," wherewith Professor

*Substance of a paper read at the R.I.B.A. on Monday, February 2.

Current Architecture. 8.—A Doorway in the Carolean Manner

Harvey and Wicks, Architects

A charming modern rendering of a late 17th-century motif. Historical models adapted in this manner are always pleasing and do much to extend insular traditions as well as to develop taste.

ıy Hambidge, aided by the ingenious A. B. W.," has lately been edifying ;aders of "The Times." It seemed, how-ver, impracticable to do justice to the sub-:ct without the aid of diagrams and draw-ıgs and, perhaps, a discussion, which, if ot unprofitable, would be untimely on ıis occasion; later on we may induce Mr. [ambidge himself to be good enough to xpound to us his theories. However ıscinating may be the attempt to trace ut a common denominator for the arts, nd to formulate their component factors, ıe process does not greatly advance our ractical studies; science may succeed in nalysing a work of art, but when it comes) making one the corresponding synthesis esults only in "Ersatz." The dynamic art of artistic conception, as of all other reation, is the subtle, mysterious element alled "life," and this no mathematical ɔrmula, no geometric combination, will roduce. When Milton invokes "the idden soul of harmony," and Gray medi-ıtes the "animated bust," the terms they se are not only poetic but precise.

Let us turn for a moment to what Guadet—perhaps the greatest of all our eachers—says about those didactics of the Renaissance period, who thought that in modules" lay the theory of the marvels hey admired. "They searched the ruins," ays he, "and discovered—the accursed Vitruvius!" "An indifferent writer, probably an indifferent architect—if he was an architect—Vitruvius had left a more or less approximate collection of the rules of Greek architecture. Living at a period remote from the origin of that art, his were, nevertheless, the sole surviving writings on architecture, and, in default of criticism, the sixteenth century accepted them for truth, as it accepted everything written in Latin. The Renaissance authors, Alberti, Vignola, Palladio, De l'Orme—all great artists—followed him down the road of architectural arithmetic. Superstition followed; the Académie Royale d'Architecture, in its early days, proclaimed the supremacy of Vitruvius, made him a sort of father of the artistic church; the triumph of the module was almost an article of faith. The module, or controversies about it, held chief place in teaching, and, strange to relate, ciphering became sovereign in the world of art. Even to-day many believe architecture to be an arithmetical art, a code of rigid mathematical formulæ." "Ah, no!" cries Guadet, "architecture is no science of numbers, it is an art!"

The "Number of Symmetry."

Search for the mystic number of perfect symmetry is no new thing. Plato believed it to be ten, the anti-Platonists insisted it was six; William of Wykeham—according to Cockerell—based his designs for the chapels at Winchester and Oxford on seven; Professor Hambidge pins his faith to the root-five rectangle and 2.236. In Gwilt's Encyclopædia, published in 1842, you will find the efforts of Cresy, Chantrell, Papworth, and their contemporaries, to fit buildings into squares, circles, triangles, or other geometric figures, which, like the bed of Procrustes, are always too small or too large for their occupants. You will find there, also, the principles of perfect and harmonious design as set forth in the "Songe de Poliphile," an Aldine of 1499. These result in a singularly ill-proportioned archway, of which the author complacently remarks: "After understanding this figure, I thought within myself, what can modern architects do, who esteem themselves so learned, without letters or principles?" Vitruvius, you will remember, declares that "the square includes the human figure, either lying down or standing in an erect posture, the arms being stretched out." When I was a pupil it was the custom to test the proportions of any newcomer to my father's office by this Vitruvian principle; he was stretched upon the floor, and the true centre of his body having been found with one leg of a compass—as nearly as his struggles would allow—a string was extended from this centre to his head, his toes, and the tips of his outstretched fingers. So far as I remember none proved to be of perfect Grecian symmetry!

Criticism of the R.I.B.A. Competition Designs

By ARTHUR J. DAVIS, F.R.I.B.A.

Soane Medallion.

THE most important competition in design in England is undoubtedly the Soane medallion, and great istinction attaches to the winning of it. 'he problem set this year, namely, a ridge over a wide river, is a subject vhich many large capital cities and towns ı Europe to-day are studying. The most nportant feature in a bridge is its func-:on as a roadway, and the traffic pro-lem is therefore all important: the lanning and conception of the bridge nd its approaches must directly solve ıe traffic difficulty without congestion. Ir. Shoosmith's winning design empha-ises many of these essential points. The oads on the more important side of the iver converge naturally to the bridge ntrances, with ample space for vehicles) cross and re-cross. Moreover, the uildings forming the vista from the ridge are well-designed, skilfully rouped, and in mass harmonise with the ridge. An obviously unnecessary feature s the triumphal arch which at one nd spans the roadway, and which vould tend to congestion during busy ours. Similar arches to old bridges vere generally of military use, and are ot required in a modern design; and Mr. Shoosmith has omitted it from one sec-ion of his design. If a triumphal pproach were essential, it could be pro-ided by pylons on either side of the en-rances, as in the Pont Alexandre, Paris, vithout impeding the traffic, but they hould be placed on both sides of the ridge.

After the traffic problem the next im-ortant feature is the view of the bridge rom the river and the embankments. Most navigable rivers are valuable horoughfares, and are likely to be more extensively used in future: this fact has an important bearing on the number of arches in the bridge. The maximum number set for the Soane problem was five, but this should not have prevented competitors from considering whether fewer would not have produced a more practical and more modern solution. In Mr. Shoosmith's design the aspect of the bridge from the river, and from the side quays, appears to disadvantage owing to the addition of the triumphal arch on one side making the two sides unbalanced. The approaches from the bridge level to the quayside are a vital feature, but the two huge masses of steps leading from the upper to the lower quays are unnecessarily important, and if introduced at all should have discharged on to a quay at least four times the size shown; these steps are out of scale with the remainder of the composition. Generally speaking, for such designs broad masses and horizontal lines should be maintained and should predominate to harmonise with the flowing horizontal lines of the water. Somerset House illustrates this point admirably.

The author of the design which receives an Honourable Mention for the Soane Prize has shown great consideration, and produced a very interesting set of drawings; but his lay-out and traffic solution is not so successful as that of the winner. Too much importance is given to the buildings and not enough to the bridge; the scale of the bridge is small, the treatment somewhat monotonous, and the arches not as pleasing as might be. The access to the lower quays is too insignificant, and the buildings, although interesting, are open to criticism: towers grow from roofs without introduction or visible base, and introduce hard vertical masses that conflict with the horizontal lines which the author rightly seems to have thought should predominate. Semi-circular recesses in buildings adjoining a quay are unsatisfactory; they should be used only where an axial approach is possible, and should form the end of a vista.

Tite Prize.

This competition was the second in importance, and the prize was deservedly won by Mr. P. H. Meldrum, whose composition and drawing show considerable merit. He has shown how a sun-lit building can be designed in broad masses, and has relied on shadows and setting to produce a simple and effective result. He has realised that a loggia should be sheltered and protected and designed so that it will not obstruct views of the garden, but afford enjoyment of the effect of trees, water, and scenery visible through the arches. The series of niches take up space, without giving corresponding advantages: it would have been better to have designed one central niche and two different side features, or a niche at each end and a different central feature.

Mr. V. O. Rees was given second place, and presents a more ambitious scheme; but the architectural treatment, although well studied, is too heavy for its purpose, and the size of the piers would interfere with the views of the garden. The loggia affords views from both sides, but while this design has advantages the loggia would be exposed, and the draughts would interfere with comfort.

The design submitted under the device of a mask has an extremely clever plan, which obtains the advantages of a view from each side without losing the protection and comfort of enclosing walls. The library appears to be well lit, and the

graceful architectural and decorative treatment is distinctly interesting. Most of the other competitors have not grasped the essential character of a loggia, but have designed a vestibule or covered entrance.

Measured Drawings.

Mr. A. F. E. Foley won this prize with a valuable record of the west front of St. Paul's, deserving great praise. His draftsmanship is accurate, but rather hard and unconvincing, and does not quite convey the charm and freedom of Wren's work. This was mainly due to the washes employed, which detract from the effect of the work: it might perhaps be better to remove the washes and leave the studies as an interesting set of line drawings.

Pugin Competition.

Mr. H. St. John Harrison's drawings are very able; the essentials of sketching are well understood, and the necessary architectural qualities of buildings are carefully delineated without losing the artistic feeling of a pencil or a pen and ink sketch, so that the actual drawing is an attractive picture and a good architectural subject.

Housing Grants to Builders

In our last issue we gave particulars of the procedure that has to be followed by builders and local authorities in connection with the State subsidy to be paid to private persons constructing houses under the Housing (Additional Powers) Act, 1919.

The conditions prescribed by the Minister as to the planning and construction of houses in respect of which the grants may be made are as follows:

In so far as the provisions of any building bylaws are inconsistent with the conditions in the schedule, such provisions shall not apply in respect of houses which comply with these conditions, but otherwise such provisons shall apply.

Planning.

The number of houses per acre must not exceed eight in agricultural areas. In other areas the standard should be twelve houses to the acre, but on land partly developed it will be within the discretion of the local authority to allow a larger number, provided that in no case shall the number of houses per acre exceed twenty without the express authority of the Minister. In calculating the number of houses per acre each tenement will count as a house. The number of houses built in one continuous terrace shall not exceed eight, except with the approval of the local authority.

No house shall be approved which contains a living-room or bedroom of a less height than 8 ft. In the case of a room partly in the roof, the height of 8 ft. shall apply to not less than two-thirds of the area, and no height shall be less than 5 ft. The local authority shall not insist on a greater height than has been determined in the case of any house in their area comprised in an assisted scheme under the Housing, Town Planning, etc., Act, 1919, and approved by the Ministry, and where no relaxation of the height prescribed by the by-laws (if any) in force has been made in the area of the local authority a greater height than 8 ft. shall not be required.

No house to which a sufficient water supply is available shall be approved unless a bath and w.c. are provided. Where no drainage is available an earth closet must be provided. It shall be open to the local authority, where it appears to them desirable, to approve proposals with regard to the level, width, and construction of streets which do not comply in all respects with the building bylaws in force. It shall be open to the local authority, where it appears to them desirable, to permit the drainage of not more than fourteen houses in any one case by a common drain, without requiring separate intercepting traps and ventilation for each house.

Houses of Brick or Stone.

Houses shall comply with the standard of construction required by the following specification. It is intended, however, that the normal methods and materials which are customary in each particular district shall be adopted to the extent that such methods and materials do not fall below the standard hereby prescribed.

Specification.

Foundations.—The foundations are to be of sufficient depths to secure a firm bottom. Where in the opinion of the local authority the nature of the soil requires it, adequate foundations of concrete must be provided not less than 6 in. thick, 12 in. wider than the base of external and party walls, and 9 in. wider than internal walls. The concrete to be composed of one part of good Portland cement to not more than eight parts of good clean aggregate.

Surface Concrete.—Where in the opinion of the local authority the nature of the soil requires it, lay over the whole surface of the buildings a bed of cement concrete not less than 4 in. thick.

Drains.—The drains, sanitary work, and plumbing are to be laid out and constructed to the approval of the local authority.

Bricks.—All bricks are to be good, hard, well-burnt, common bricks; facing bricks and particularly those below the damp-course are to be such as will not scale or perish. Where London stocks can be obtained, approved grizzles or place bricks may be used for party walls and internal walls carrying no weight. Approved old bricks, where available, may also be used.

Mortar.—Mortar is to be composed of one part of good lime and not more than three parts of sand, or of one part of Portland cement to four parts of sand.

Brickwork.—No main external brick wall is to be less than 9 in. thick if solid, or if hollow than two 4½-in. brick walls with a 2-in. cavity and with galvanised iron ties, two at least for every superficial yard. In exposed situations, external solid walls must be rendered in cement or finished rough-cast. All division ground-floor walls carrying upper floor joists are to be 4½-in. brick. The joints of all brickwork to be filled solid with mortar and well flushed up.

Damp-courses.—Lay adequate damp-courses the full thicknesses of all walls.

Rendering.—Roughly render the faces of brickwork or walling over smoke flues passing through floors, ceilings, and in roof spaces, with cement mortar.

Stone Walls.—Stone walling may be substituted for brickwork, in which case it must be at least 12 in. in thickness.

Roof coverings.—Roofs must be covered with tiles, slates, or other incombustible material.

Timber Generally.—All timber is to be sound, free from wrack or dead wood, and suitable for its purpose.

The timber for carcassing to be of suitable building quality, reasonably seasoned and not inferior to good fourth Swedish classification. Equal qualities in Finnish or Russian timber, spruce, red pine, pitch pine, Oregon pine, British Columbia pine or suitable home-grown timbers may be used.

The timber for joinery to be of suitable joinery quality, well seasoned and dry and not inferior to good third Swedish or White Sea classification.

Spacing of Timbers.—All joists and rafters to be spaced not more than 14 in. apart.

Floor Joists.—Construct the wood floors with joists of the following scantlings, or with scantlings of equal strength:

	Dimensions. Inches. Inches.
Length of the bearing not exceeding 5 ft.	4 × 2
Length of the bearing not exceeding 6 ft.	4½ × 2
Length of the bearing not exceeding 8 ft.	5½ × 2
Length of the bearing not exceeding 9 ft.	6 × 2
Length of the bearing not exceeding 10 ft.	6½ × 2
Length of the bearing not exceeding 11 ft.	7 × 2
Length of the bearing not exceeding 12 ft.	8 × 2

Trimmers and trimming joists are to be half an inch thicker than the other joists. One row of herring-bone strutting to be provided for bearing exceeding 8 ft.

Roofs.—Construct the roofs with rafters of the following scantlings or of equal area and suitable depths:

	Dimensions. Inches. Inches.
Length of bearings not exceeding 5 ft.	3 × 2
Length of bearings not exceeding 6 ft.	3½ × 2
Length of bearings not exceeding 7 ft.	4 × 2
Length of bearings not exceeding 8 ft.	4½ × 2
Length of bearings not exceeding 9 ft.	5 × 2

Where necessary, provide suitable purlins, hips, and valleys.

Plastering.—All the walls and ceilings of living-roms and bedrooms shall be plastered.

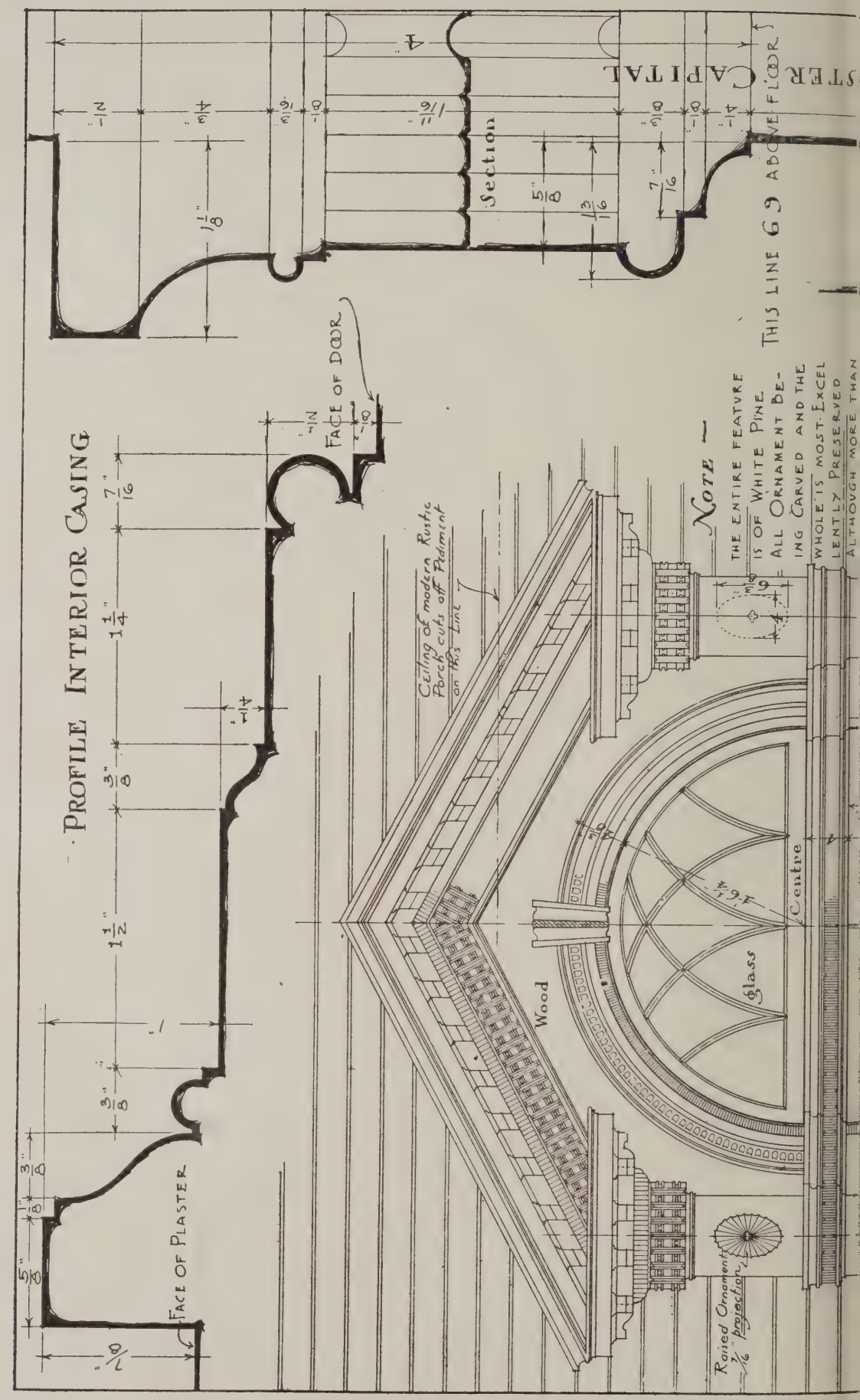
Eaves Gutters.—Eaves gutters are to be cast-iron, the joints made in red lead and bolted, fixed on suitable brackets, or screwed to rafters, or fascias.

Fall Pipes.—All the fall pipes are to be cast-iron.

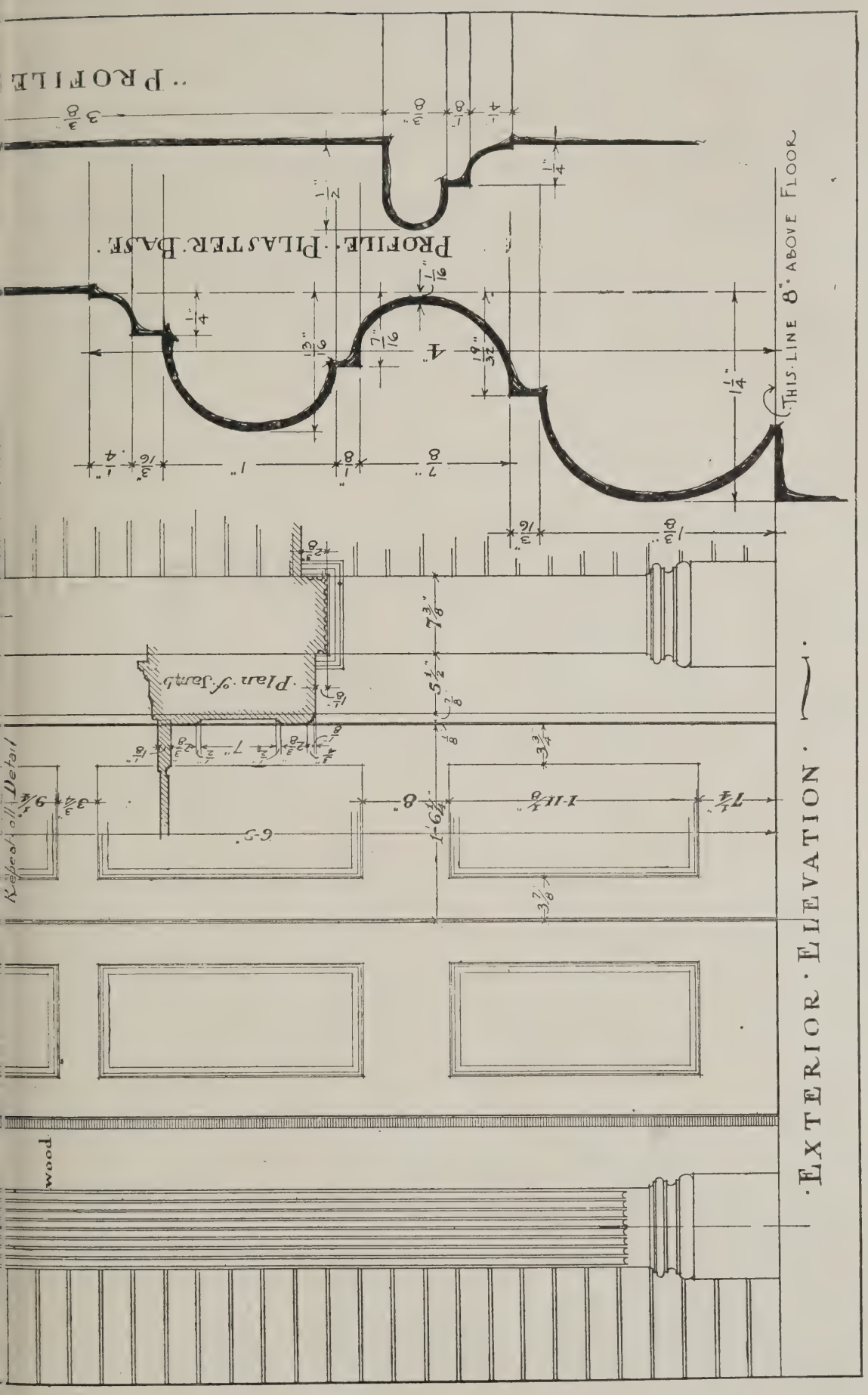
Soil Pipes.—All the soil and ventilating pipes to be 3½ in. cast-iron dipped in Dr. Angus Smith's solution, the joints caulked and run with lead.

Forms of Construction other than Brick or Stone.

Grants will be payable in respect of houses built in accordance with any special form of construction approved by the Ministry. Where a special form of construction, including houses built of wood is adopted it must be carried out strictly in the form approved by the Minister and must comply with the conditions in this schedule so far as they are applicable.



Details of "Colonial" Architecture. I.—Doorway of old Brick House, Frederick Turnpike, Carroll Co., Maryland, U.S.A.



This doorway is a delightful example of American "Colonial" architecture. The "Adam" influence is plainly apparent, particularly in the detail. The drawing, by Mr. H. F. Cunningham, is from the "Architectural Forum's" collection of Early American Architectural Details.

Construction 5.—A Guncotton Factory

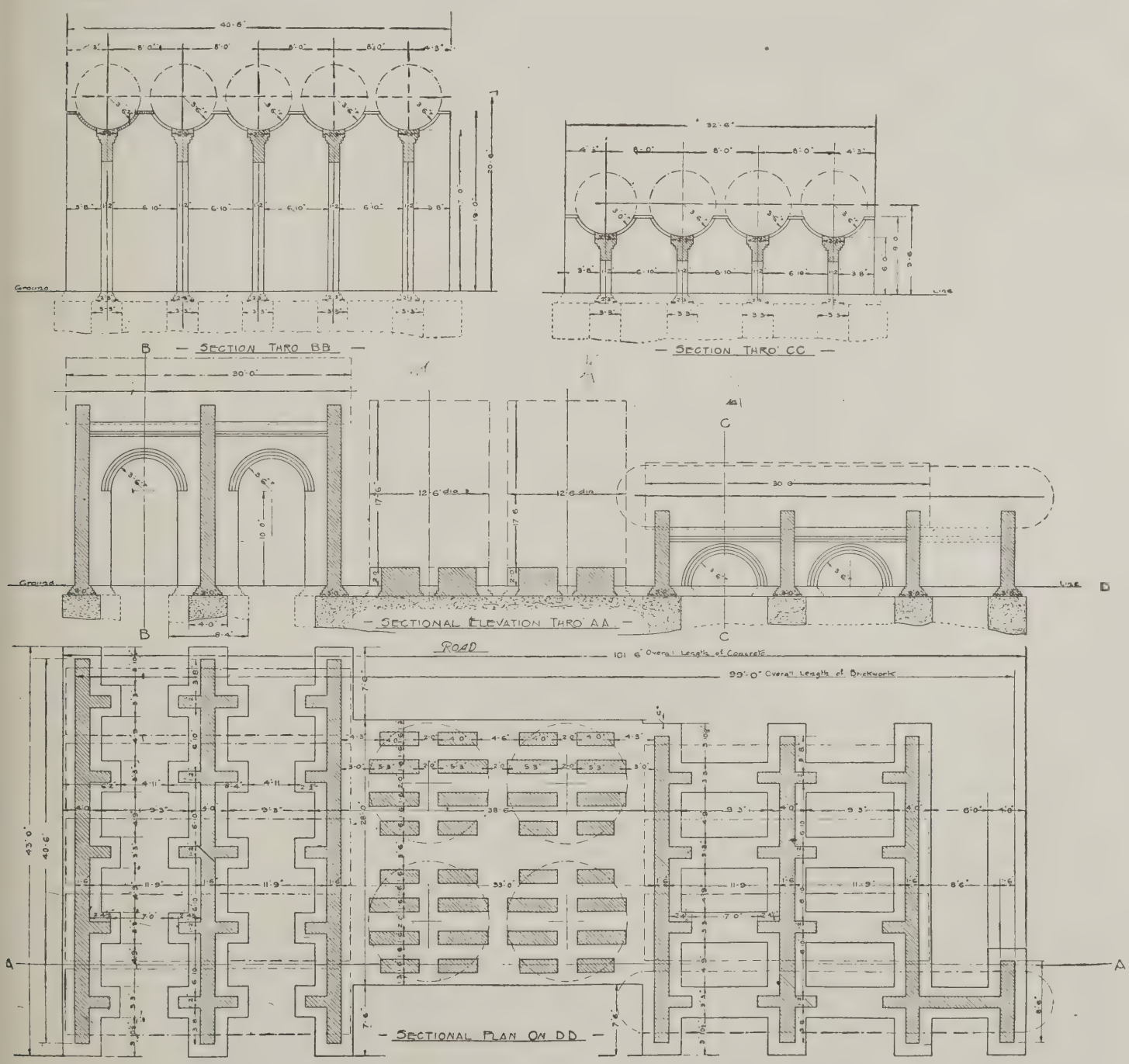
(*Concluded from page* 154, *No.* 1309).

THE vat house is a building 127 ft. long, 27 ft. wide, containing the large wooden vats for boiling the cotton. The concrete floor has a fall from both sides to the centre, where there is a channel 12 in. wide with a fall to one end of the building for the purpose of carrying away the large quantity of water that is discharged from the vats by the frequent changes during the boiling of the cotton. The sides are constructed of framing with 4-in. by 3-in. top and bottom plates, 4-in. by 3-in. uprights, and 4-in. by 2-in. studding, and the roof is spanned by collar-beam trusses constructed with 7 in. by $2\frac{1}{2}$ in. rafters secured to the uprights with braces. Purlins are spiked to the trusses and covered externally with galvanised corrugated iron. Skylights, formed to open, are placed over each vat. The vats themselves are supported on 11-in. by 4-in. bearers on the floor. A platform about 2 ft. below the top of the vats runs the whole length of the building. The water troughs for filling the vats are suspended from the trusses, the troughs having discharges over each vat operated as required. The whole of the interior woodwork is treated with "Solignum" to resist the action of steam and water.

Referring now to the acid side of the manufacture of guncotton, it may be briefly stated that buildings are required for the manufacture of acid, for the recovery of the bulk of the acid after it has been used for nitrating the cotton, and for storage.

The acid storage tanks in this factory are placed on specially constructed brick walls strengthened by arched cross walls with the top courses corbelled out to form a large bearing surface for the underside of the tank. The space under the tanks was roofed over and converted into stores. The acid from the higher tanks passes into the mixers, and in turn passes into the storage tanks, for use as required. On account of the heavy weight to be carried, special attention was paid to the foundation, a raft of concrete 3 ft. thick being placed under the mixers.

After the nitration of the cotton, the acid, when drawn off, is collected into an acid egg, i.e., a tank let into the ground, and when full is blown out under air pressure into the strong acid tank. It is



GUNCOTTON FACTORY AT COLNBROOK, BERKS: ACID STORAGE TANKS. H. V. MILNES EMERSON, A.R.I.B.A., ARCHITECT.

brought up to the required strength by the addition of new acid, and is then ready to be used again. When the acid is drawn off water is turned on to the cotton in the nitrating pans for the purpose of removing the remaining acid. During the early part of this operation the bulk of this acid, now termed weak acid, is removed and collected into another tank, to be afterwards treated in the denitrating and concentrator houses, where the acid is extracted. As the washing proceeds the amount of acid removed becomes smaller in volume, until it reaches a point where it would cost more to recover than the value of the acid. At this stage, therefore, it is allowed to pass into the drains direct.

The collected weak acid is now passed on to the denitrating house, a timber building of similar construction to that already described, and covered with asbestos corrugated sheeting, the wood and ironwork being protected with an acid-resisting paint or tar. The floor is formed of concrete, and although this wears well it ultimately succumbs to the acid, which, by various means, comes in contact with it.

After passing through the retorts and having the nitric acid extracted, the remainder, weak sulphuric acid, is forced into tanks on the high level of the concentrator, down which it passes in this particular instance over a series of pans in the form of a cascade, under which the heat from a furnace is passed, thus driving off the surplus water and leaving the sulphuric acid. The building covering these concentrators should have the eaves about 7 ft. above the highest point of the concentrator, the sides and roof being covered with asbestos sheeting and provided with top light and louvres—the latter to allow any fumes to pass away. Provision should be made for ready access to the furnace, which is situated about midway under the concentrators, and for the storage of coal, the arches under the higher portion of the concentrator being adaptable for that purpose.

The retort and still houses are for the manufacture of the nitric acid, the sulphuric acid being manufactured as a rule at specially constructed factories, the process entailing a much more elaborate apparatus, which, for the purpose of supplying a small factory, would not justify the expenditure that would be entailed. The retort and still houses at this particular factory are similar in construction to the nitrating house, but the height was increased to 20 ft. from floor to underside of tie-beams to allow ample head room for the workers on the gangways and platforms at the top of the retorts. The floor is composed of concrete finished to a smooth surface and falling to a main channel that carries away the water discharge from the stills. The flues from the retorts are taken underground to a main chimney shaft.

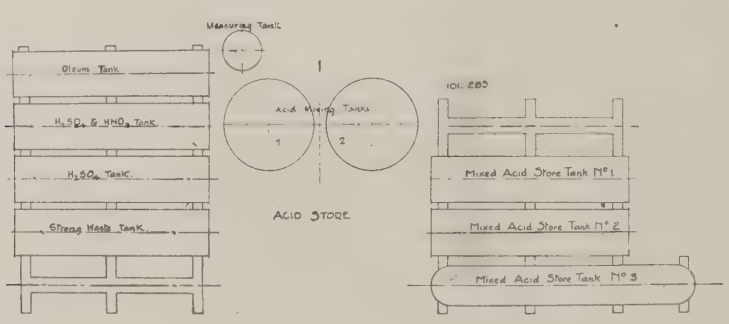
VAT HOUSE IN GUNCOTTON FACTORY AT COLNBROOK, BERKS.

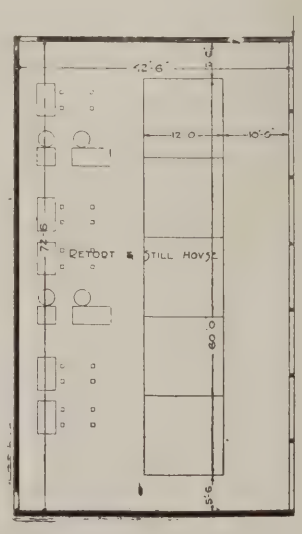
The water problem in works of this nature requires careful consideration. It must be absolutely pure and the supply abundant. These particular works required some 250,000 to 300,000 gallons every twenty-four hours. Shallow wells were sunk, and proved sufficient to supply the demand. An equally important matter where sewers do not exist is to get rid of the water after being used. As this discharged water contains a certain amount of acid, it cannot be reused in the manufacture, nor must it be turned into a stream or at any point near the existing supply. In this particular instance the water was collected by a series of drains culminating in a 9-in. drain and discharged in an opposite direction into a sump hole 200 ft. long, 50 ft. wide, and 6 ft. deep, with an overflow into another sump of a similar size, with a dividing bank about 50 ft. wide. As the ground had a gravel sub-soil the water was enabled to percolate away fairly quickly, becoming filtered in the process.

Four Lancashire boilers supply the necessary power for the engine and steam for boiling the cotton in the vats. The engine is used for driving the beaters and for the dynamos, the latter being augmented by a suction gas engine.

Various stores and workshops are provided, perhaps the most important being the plumber's shop, as lead is the only base metal that will resist the acid to any extent. All lead work, such as tank lining, etc., must have the joints burned, as the acid would promptly attack solder.

The architect for this interesting work was Mr. H. V. Milnes Emerson, A.R.I.B.A., of Westminster, the engineers being Messrs. Heron Rogers and Llehn, of Westminster.





GUNCOTTON FACTORY AT COLNBROOK, BERKS: LAY-OUT OF ACID STORE TANKS AND RETORT AND STILL HOUSE.

Current Architecture. 9.—Houses in Weston-Rhyn Garden Village, Salop

T. Alwyn Lloyd, Architect. J. A. Hallam, Deputy Architect

Weston-Rhyn is a colliery village. The houses here shown have 9 in. outside walls covered with two coats of cement rendering left rough from the float and colour-washed. The windows, it will be seen, are of the casement type, and the roofing is of hand-made tiles. Most of the houses have a single living-room, scullery, bathroom, and three bedrooms, but a few have parlours and upstairs bathrooms.

UNIVERSITY OF ILLINOIS

Modern Telephones and their Manufacture

AT the inaugural meeting of the present session at the Royal Institute of British Architects, he President, Mr. John W. Simpson, aid stress on the necessity for the rchitect being a business man as well s an artist. It is to-day more than ever mportant that the practising architect hould number among his qualifications hat solid sense of proportion—those owers of inductive and deductive reasonng—which go to make what is commonly alled "business ability." One of the most eneral applications of this capacity conists in the power to visualise as a running oncern the building he is commissioned to esign. Eminently is this so in such cases s commercial buildings, factories, and imilar structures, where organisation is he keystone of the undertaking.

The complexities of modern commerce nd the enormous development of the rinciples by which both time and labour re saved render it increasingly necessary hat the architect, when planning, should ultivate the faculty of pre-vision, and thus nticipate the administrative requirements f the business he is called upon to house.

There are aspects of this question which re not infrequently overlooked at the outet, with the result that when the time rrives for the installation of such services s gas, vacuum cleaning, electric light, he pneumatic transmission of documents nd packages, telephones, an unsightly ngle of pipes, cables, and wires trail in ost disfiguring fashion throughout the ructure. Holes have to be bored through alls, girders and pilasters negotiated and rcumvented, heavy holdfasts fixed, and uch "making good" done to damage, all f which might have been avoided if prosion had been made from the commencent. To take the last item alone in this category, it will be agreed that if lead-covered telephone cables were built into the walls in positions best calculated to serve the system to be ultimately installed there would be no external evidence of their existence, and the suggestion of makeshift, so frequently conveyed in offices and factories would be eliminated.

In regard to telephones generally, this highly specialised and necessary service requires far more attention from architects than it has hitherto received at their hands, and the time has arrived when it becomes advisable that, while the plans are still being made, not only the system to be installed but also the lay-out of the wiring and the positions of the exchanges and telephone boxes should be settled.

The extensive application to all classes of commercial buildings of the inter-departmental system of telephoning is one of the recent features which have marked the progress of this important industry. A further development—peculiarly applicable to factories consisting of numerous detached workshops covering a considerable area—enables a call to a member of the staff to be answered in a few seconds, no matter where he may be.

For the purpose of illustration we assume that there are twenty members of the staff, with any one of whom it may be desirable to get into touch at a moment's notice. At various positions in the shops throughout the works a group of five different coloured lamps and a call-bell, or other suitable audible signal, are fixed. Near the telephone operator there is a twenty-way push board, each button representing one member of the staff. A code of colours is allocated to each individual. Obviously, for the first five a single colour is sufficient, but beyond this a combination of two or three colours is necessary. Thus the signal code for Mr. Brown may be red, green, and yellow. When it is found that he is wanted the telephone operator presses the button representing Mr. Brown. Her work is finished for the moment. Immediately in every part of the works the red, green, and yellow lamps become luminous, the bells ring and continue to do so intermittently, until Mr. Brown, hearing them, glances at the nearest group of lamps and observes his signal code, indicating that he is wanted. He immediately proceeds to the nearest telephone, and the telephone operator who answers his call informs him that he is wanted and immediately connects him to the person who wishes to speak. The operator then extinguishes all the lamps. In the very noisy shops the bells are omitted and hooters fixed instead.

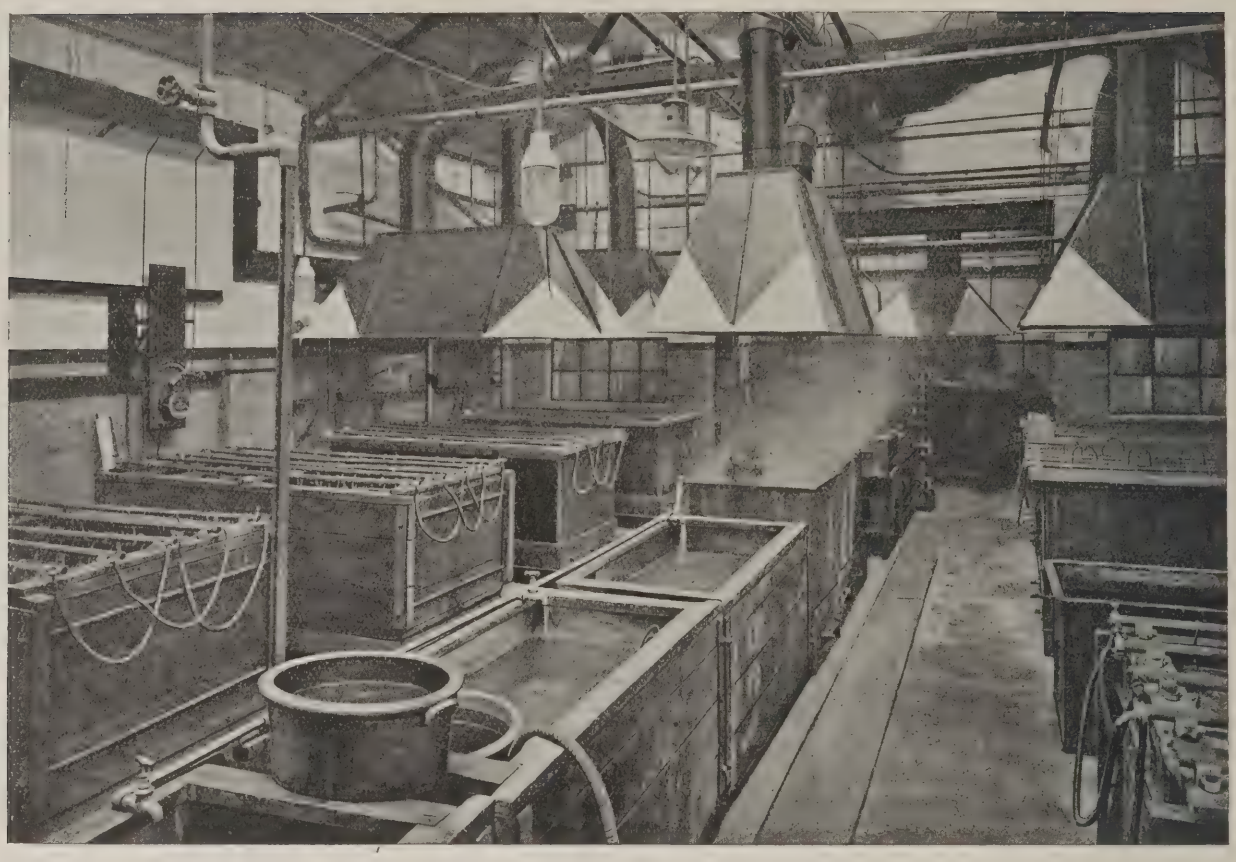
It will readily be seen that in addition to the enormous saving of time effected by the staff call system, any member can be immediately located by any other, irrespective of their positions at the time. All that is required is for each member to remember his own code of colours.

On the invitation of the Sterling Telephone and Electric Co., Ltd., 210-212, Tottenham Court Road, W.1, a representative recently visited the company's works at Dagenham, Essex, and was shown by a series of demonstrations how promptly the system worked.

The company's works, it may be mentioned, cover an area of approximately thirty-four acres, of which the actual buildings occupy six acres, the sports ground another five, while eighteen acres are reserved for a housing scheme.

In this vast agglomeration of shops every stage of manufacture from the raw state to the finished article could be witnessed in operation, of the countless component parts which are necessary for

STERLING TELEPHONE CO.'S WORKS, DAGENHAM, ESSEX: MACHINE SHOP.

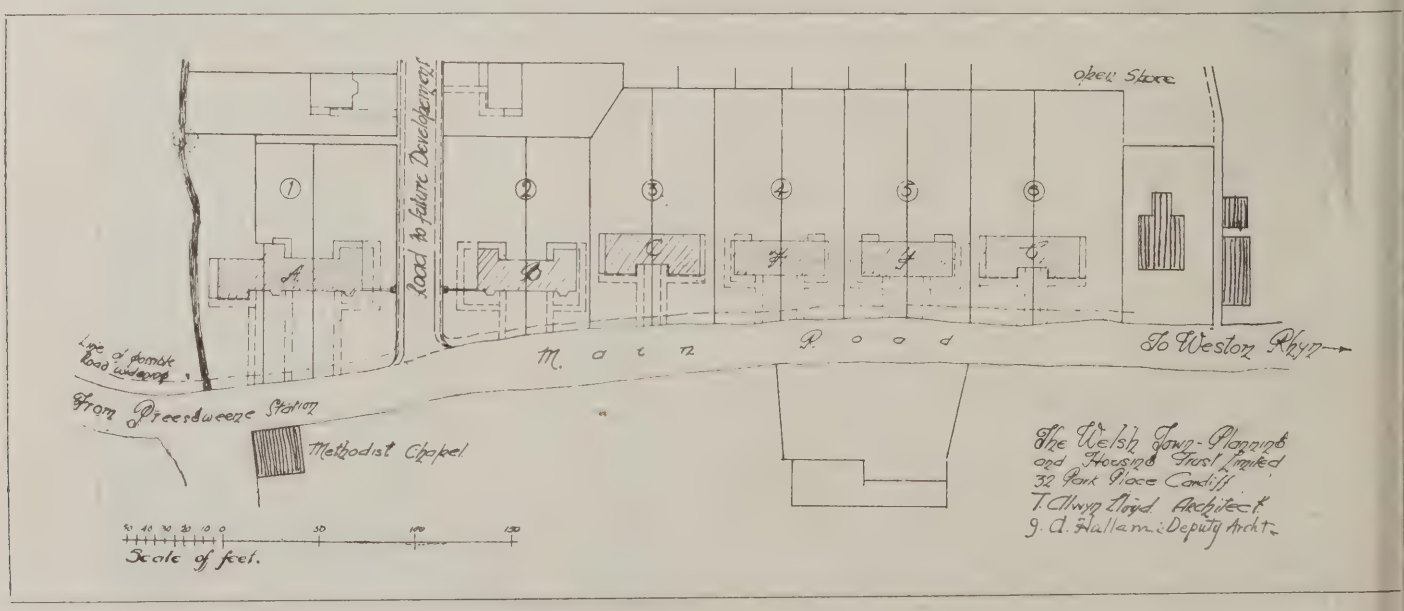


STERLING TELEPHONE CO.'S WORKS, DAGENHAM, ESSEX: ELECTRO-PLATING SHOP.

modern telephone apparatus and equipment. As an example of mass production the works proved most interesting. Infinite care in regard to the minutest detail pervaded the whole enterprise, linked with a system by which the cost of producing a single screw is not only ascertained to a decimal point, but is recorded, charted, and docketed in readiness for instant reference. Such methods as these provide cost data of so exact and searching a character that prices can be fixed with a mathematical precision quite impossible in former days.

The business was established by Mr. Guy Burney in 1900, and was registered as a limited liability company nine years later. Equipped with the highest class and most modern machinery, the works are occupied in the manufacture of telephones, wireless telegraph instruments, mine-signalling apparatus, mine exploders, and electric bells and indicators of every variety. Important work was carried out by the company during the war for the Ministry of Munitions, when the total number of employees exceeded 2,500. Great attention has been devoted to the welfare of the operatives, for whom a co modious recreation hall has been erect adjoining the canteen, in which concer and dances are held during the meal hou and evenings. There is also an athle and social club, a cycling club connect with the sports' section, a large recreati ground where cricket, tennis, football, a bowls are played, and a well-equipped fir aid hospital staffed by qualified nurses f the treatment of cases of minor accident

By courtesy of the company we are al to show two characteristic views of th works at Dagenham.



PART LAY-OUT OF WESTON-RHYN COLLIERY VILLAGE, SALOP. T. ALWYN LLOYD, ARCHITECT. J. A. HALLAM, DEPUTY ARCHITEC

(See page 195).

R.I.B.A. Housing Conference

HE three-days' Housing Conference convened by the R.I.B.A. at the Ideal Home Exhibition at Olympia as opened on February 4 by Dr. C. ddison, M.P., Minister of Health, with r Reginald Blomfield, R.A., in the air, owing to the unavoidable absence of r Aston Webb, P.R.A.

Dr. Addison remarked that the other ay he noticed a statement that more ogress had been made with regard to ew and improved methods of housing the last six months than had preously been made in this country since e time of the cave dwellers. So far the Ministry of Health were concerned ey were rapidly emerging from the eriod of initial difficulty and organisaon, and big blocks of schemes were aching their final stage every week. uring last week more than 11,000 new ouse plans had been submitted, and ore than 7,000 approved. Contracts ally approved last week for work to gin numbered more than 3,300. They ad now passed the 100,000 mark of ouse plans submitted, and the day was pidly approaching when the "tender" age would be reached. Supplies of bour and supplies of money the Minisy of Health could not provide, but short these two things there was no reason hy the programme of 200,000 houses ould not be in course of erection or mpleted this year. In one respect the inistry were greatly disappointed with ose who had made proposals for new ethods of construction. While forty fifty approved types of new methods house construction had been passed, cept in a small number of cases, the ms submitting the proposals did not pear to be in a position to deliver the ods. He hoped firms would speed forard the day when complete arrangeents could be made, because unless me of the new methods, which were t only delightful to look at but would ovide comfortable houses, were adopted, ey would not be able to carry out the ogramme, as there were not enough bourers in some directions to do the ork. In connection with the housing heme the Ministry of Health had had unusual opportunity of seeing the ork of architects and surveyors en asse. The conclusion he had come to as that there were architects and archicts, some had regard for economy and me had not; some realised that it was cessary to make progress to-day, and me thought that the next week would . He hoped the R.I.B.A. would do s best to insist on economy and avoid any aste of time. In some housing schemes bmitted the lay-out seemed to be reardless of the ground. In the case of e small scheme a saving of £2,000 on ads was effected by the readjustment of e lay-out. In another scheme, for 300 uses, submitted within the last week, a ving of £10,000, or over £33 a house, as secured by a readjustment of the layt and the arrangement of the roads. metimes they came across men who d not remember the need for economy, d they got a great multiplicity of degns. In one scheme, for forty-seven uses, there were fifteen different types. he last thing they wanted was to cover e country with a monotony of houses, t at the same time there was moderaon even in diversity. They had selected large number of standard plans which had proved to be cheap, simple, and acceptable, and often it came about that these had to be substituted for the more elaborate ones submitted. The Ministry proposed to invite the R.I.B.A. to confer with them as to the best and most practical way of dealing with the difficulties that had arisen. The Ministry were accused of adopting a reactionary policy when they suggested lowering the height of a ceiling from 8 ft. 6 in. to 8 ft. What would be said when it came to an alteration in the whole fabric of a house? If cheaper and better methods of construction were to be adopted it must be with the approval of the people. The housing scheme had for the first time provided this country with a review of what was needed in respect of housing. About 1,700 out of the 1,800 authorities had for the first time surveyed their districts, and had stated what they thought was necessary to get the people properly housed. As the schemes gradually came into operation, combined with the sweeping away of unsatisfactory dwellings, it would mean a new standard of house provision throughout the country. It would take many years to bring this into effect, but compulsory town-planning would come into force in three years, and as the schemes materialised it would be found that a great step forward had been taken in the matter of housing.

Mr. Oscar Warburg, L.C.C., suggested that in all new housing schemes provision should be made for a small percentage of houses designed for the benefit of tuberculosis patients who had undergone hospital or other treatment and returned home. By this means much could be done to mitigate the ravages of the disease. Observations made by the Brompton Hospital show that where no such provision is made for discharged patients a heavy percentage of them soon relapse; whereas with adequate attention and housing over 90 per cent. keep well and fit to work. He suggested, therefore, that 5 per cent. of houses in new schemes should be devised for such persons, and thereby check the complaint and prevent the necessity for erecting sanatoria.

Major H. Barnes, M.P., said there could be no doubt that Dr. Addison was doing his utmost to speed-up housing production, but that, like architects, he often found himself in a difficult position between client and contractor. The situation was not made easier by the great cost of materials, and there seemed good ground for suspecting that many items were unjustifiably high. It was satisfactory to know that the Government had appointed a committee to investigate the prices of building materials. If, in addition to that, steps were taken to perfect the co-operation of the three factors in the building industry, namely, architects, builders, and operatives, costs would be still further reduced, and progress proceed more quickly and smoothly.

Sir Reginald Blomfield observed that there had always been a great desire for the ideal home. Probably even in the Stone Age there was a great competition to secure the best hole in the hill. It was a great satisfaction to architects that so much attention was now being given to the subject, and the result would undoubtedly be considerable progress.

The Conference opened on Thursday morning, February 5, with a paper read by Sir John Ferguson general manager of Lloyds Bank, on "The Financial Aspect of the Housing Problem." Sir Theodore Chambers, K.B.E., was in the chair.

The problem of raising the vast amount of capital required for housing schemes was very difficult, said Sir John Ferguson, and he had been entrusted by the Government to supervise a campaign throughout the country. There could not be a doubt that the houses were imperatively necessary, but to find the money to pay for them was not easy; the task could not be accomplished merely by suggesting that someone else should find the capital. It was easy to say that the Government should raise the whole amount, but the Government had already borne the heavy strain of financing five years of terribly expensive war, and is still faced with a great debt that has to be funded in a more permanent form: it cannot, therefore, assume the whole burden of housing finance, although it had undertaken a heavy part of it in assisting local bodies and co-operating financially in other ways. The greater part of the burden must therefore be undertaken by local finance, which had not been so heavily or directly taxed by the war. Local bodies could raise loans chiefly in three ways: (a) by the issue of stock for bonds, (b) by mortgage loans from insurance and other great companies and unions, (c) advances of short term-loans from bankers and others. The first course was only possible to large towns, but short-term loans were familiar to all. The loans from great companies were usually obtainable at very favourable rates, and in the majority of cases were renewed on maturity. The great task, said Sir John Ferguson, was to stimulate local patriotism to take up the financial burden; in some areas the feeling was very undeveloped. Various facilities could be devised to encourage local subscriptions. Power has been given to issue local housing bonds, with good securities on the revenues and properties of the local authority; although the security is not guaranteed by the Treasury it is gilt-edged and has been made a trustee security. The bonds will also be accepted at face value in the purchase by individuals of any houses erected by the local body and which the latter may be disposed to sell.

Considerable discussion followed, and several questions were answered by Sir John Ferguson and an official from the Ministry of Health. Sir John said it was not yet possible to fix the rate of interest on housing bonds owing to the continued issue of $5\frac{3}{4}$ per cent. Exchequer bonds. Several representatives of local bodies present protested that the delay in fixing this rate of interest was seriously handicapping their financial arrangements.

Referring to several questions that had been asked about the position of discharged soldiers and sailors in applying for houses, Mr. H. Aldridge, of the National Housing and Town Planning Council, said the great majority of local bodies had put on record their decision to give precedence to such applicants and to men with large families. Whatever might be the financial aspect of the subject, this human attitude was the right one. Mr. Aldridge said that whereas the Ministry of Health was giving all possible assist-

ance to housing schemes, the Treasury was very backward, and had no perception of actualities. There were many local authorities so circumstanced that it would be impossible for them to raise locally the whole of the gigantic sums required for housing schemes, and an organised scheme of assistance was indispensable. So far as outside assistance was concerned, much might be done by appealing to the great trade unions to loan their funds for housing schemes, and one or two such loans had already been arranged. A vast number of working-class people were not in a position to do much individually, but they could do a great deal by organised collective effort.

In response to several questions, the representative of the Ministry of Health definitely gave assurance that the Government were determined to keep their promise to assist those local bodies who have been obliged to enter into contracts for housing schemes, but fail to raise all the capital required.

Several delegates from local bodies complained of their inability to fix contract terms with local builders, and of the latter's efforts to increase their terms even when the figures had been agreed upon. Mr. A. G. White, secretary of the National Federation of Building Trades Employers, said that his Association had formulated a scheme on which housing contracts should be accepted, and had recommended their members to adopt it. They had also appealed to their members to undertake a full share of the housing work. Their recommendation was to carry out the work on a cost basis, plus a percentage of profit varying from 5 to 7 per cent., according to the number of houses to be erected.

With Mr. W. E. Riley, F.R.I.B.A., in the chair, the second lecture was given by Mr. F. M. Elgood, F.R.I.B.A., on "The Difficulty of Obtaining Contracts." Mr. Elgood described the perplexity of local authorities in having to arrange contracts on a cost plus profit basis instead of the lump sum contract to which they had been accustomed. He said that in the main the experience of local authorities with contracts has been upon a fixed price basis, and it is a breaking away from all past experience now that various circumstances make fixed price contracts almost impossible to obtain. The difficulty of providing labour and material, and the uncertainty of their prices when obtainable, make fixed price contracts even when entered into subject to modifications or adjustment of prices. Competitive tenders are still sometimes available, so that it cannot be said that the system has finally broken down; but it remains true that for the present other contract methods have to be considered and adopted. It must not be forgotten that in the report of Lord Colwyn's Committee on Building Construction Contracts, although a system of cost plus fixed profit contract was recommended, the committee strongly recommended the adoption of lump sum contracts as soon as conditions permitted. Normal conditions have not yet been restored, and it is natural for builders in prevailing circumstances to prefer a cost plus profit contract; but it is hard to get public bodies for purely civil work to enter upon the unknown liabilities which such contracts involve. There is, however, a modified cost system which protects the local authority and yet encourages the builder. A basis price is fixed representing prime cost together with an agreed percentage for plant and administration; also an agreed percentage for net profit. The builder is paid whatever the work costs under any circumstances. If this cost is less than estimated prime cost is paid by agreed percentages and a proportion of the saving effected. But if actual cost proves more than estimated cost he receives it plus the agreed plant percentage, but the net profit is reduced. Variations in cost of labour and material are, of course, added. Great care is necessary with this contract to see that the estimated prime cost and the agreed percentages are reasonable; its great advantage over the ordinary cost plus profit system is that it encourages the efficient builder. Working upon such a contract, and with harmony between builders and operatives, the housing schemes of local authorities should be greatly facilitated. By collective bargaining a satisfactory price can be arranged, and the work spread over a large number of builders, each taking a share according to capacities, so that no one outstrips another unfairly in private work. The simplest course in arranging agreed price contracts is for the Builders' Federation and the local authority to agree to a proposal to erect a definite number of houses in a definite time; the local authority's quantity surveyor and the regional surveyor of the Housing Commissioner then agree between themselves upon a fair price for the houses in question. The builders are then invited to meet these surveyors, having previously received the bills of quantities, and the three parties meet to discuss and agree upon the price. When finally settled the contracts are entered into.

Major Barnes, M.P., agreed that the old style of lump sum contract was almost impossible in present circumstances, although a return to it was desired by local bodies since it would definitely fix their liabilities. But there was no reason why client and builder should not be satisfied with an efficient costing system, since it would safeguard the client, and provision could be made to allow both builder and the operatives a proportion of the amount saved on a fair estimated prime cost.

The afternoon session opened with a lantern lecture upon "The House Beautiful," by Lieut.-Colonel W. G. Newton, M.C., A.R.I.B.A., the chair being occupied by Sir Reginald Blomfield, R.A. By "The House Beautiful," the lecturer explained that he meant a dwelling comely, pleasant to look upon and live it. The obstacles to obtaining such houses were that they were considered expensive, and not wanted. "Practical" men on committees insist upon the chief conveniences in a dwelling being supplied, but comeliness is something added thereto, the solution of housing problems in a dainty manner. For the sake of the coming generation this should be ungrudgingly given. The standard of comfort for artisan's dwellings has been steadily rising during the past fifty years, and comeliness and beauty of proportion should now be added. Beauty is not something added to a plan and elevation at so much per cent., but rather a grouping of masses and openings, blanks and details, a choice of materials and colour. Given even simple ordinary materials, bricks, tiles, slates, and deal for doors and windows, with a great deal of thought much jolliness can be produced. The scale for the units should be small; house fronts fifty feet by fifteen high, with two doors, half a dozen windows, and two or three chimney stacks. The layout of the whole, say for a thousand houses, must be on broad and simple lines, with breaks and diversities in scale with a street, a road, or a group, and not restless protuberances every few feet. Such beauty of design is well worth having, and is not expensive in time and materials, but only in thought. Fussiness and untidiness must be avoided; so, too, avoid much setting forward and setting back. Larger groups than two houses are more desirable, and give more shelter in gales, as seen in old English villages. Glimpses through to the gardens are not good if overdone. Big trees should be kept wherever possible; and in the village something should be large to complete the view.

In the elevation of the houses, the four main elements to be treated are the walls, openings, roof, and chimneys. Pleasant walls could be made of almost any material. There should be simplicity, preferably one colour and texture, and everything that helps the long low feeling is valuable. By using as far as possible local materials—and never was a small country richer in variety of building materials—richness and variety in villages and streets (and not in each house) could be achieved. The value of a wall is its flat surface, as a foil to the shadow of the eaves and the delicate detail of the few openings. The latter are important. Windows should be set well forward to catch the lights of the sky and to seem to look out; recessed windows have a dull shadow round them, like sunken eyes. There should be glass bars, in right proportion, the pleasant subdivision which long tradition has made familiar and delightful: to have no bars is crude, ugly, and uneconomical. Windows should be as small as is reasonable, and with very simple surroundings: a simple head, such as bricks on edge, and a simple sill, such as two courses of tiles. The door, next, may make or mar the front, and affords the opportunity for delicacy of detail, proportion, and colour. A simple porch with hood gives shadow, and shelter from rain, particularly if the doorway be planned eighteen inches back from the wall-face. The roof in a small house is usually the greatest unbroken mass, and offers a great opportunity in almost any material. Even a flat roof could be attractive with a simple brick parapet, despite other drawbacks. As for material, we shall probably come back to slates or tiles to form a simple and pleasantly proportioned roof. Interest will be focussed on the silhouette of ridge, gable, and chimneys, or by emphasising the line where the roof joins the walls; the ridge tiles should be plain and not ornamented.

The concluding lecture of the afternoon was by Mr. H. Avray Tipping upon "The Preservation of Old Cottages and Villages." Mr. E. Guy Dawber, F.R.I.B.A., was chairman. Mr. Tipping presented the economic, historic, and æsthetical arguments in favour of restoring old cottages, and illustrated the subject with many slides showing cottages successfully treated. Nowadays, he said, even on the lowest possible practical grounds of expediency it is imperatively necessary to preserve every house that can be made habitable, in order to relieve the housing shortage.

[Owing to the pressure on our space we are reluctantly compelled to hold over the conclusion of our report of the conference until next week. A review of the Ideal Home Exhibition, at which the conference has been held, will also be published in our next issue.]

Town Development and Housing

Brighton.

The Brighton authorities have made a tart in building houses.

Glasgow.

The Corporation have been authorised o erect military huts for temporary housng accommodation at Linthouse.

Cleethorpes.

Approval has been given to the erection f 134 houses. The sites have been purhased at a cost of £240 per acre.

Godalming.

Tenders for the erection of fifty-eight ouses at Godalming varied from £809 to £912 each.

Bournemouth.

The Town Council have decided to have lans, etc., provided with a view to an xtension of the undercliff promenade on he West Cliff.

Lewisham.

Sanction has been received for the purhase of the Bellingham site, about 250 cres in extent, involving an expenditure f about £108,000.

Lambeth.

The Lambeth Council have decided to pply to the London Council Council for e loan of over £121,000 for the erection f 138 houses and flats at West Norwood.

Chard.

The Town Council have decided to rect twenty ex-Army huts as woodenramed bungalows to meet the urgent ousing demands.

Bromley.

Building operations have commenced in onnection with the scheme for erecting a arden city and building houses. The site ccupies part of Bromley Common, and ncludes an ornamental lake.

Frome.

The U.D.C. have decided to apply to e Ministry of Health for sanction to a an of £460 for the purchase of land at ark Road upon which to construct ouses.

Ashton-in-Makerfield.

Ashton-in-Makerfield's housing scheme to cost nearly £850 per house for eighty ouses. The lowest tender originally was or £1,100 per house, but the scheme was odified to bring down the cost.

Middlesbrough.

The Housing Committee have adopted general rule that, under present condiions, the demolition of houses or their onversion to any other purpose shall not e allowed.

Bilston.

Bilston D.C. have agreed to enter into ontracts for one hundred "A" type ouses and twenty-five "B" type, with ontinuous cavity walls and slated roofs, a lump sum of £680 per house, on the radley site.

Sunderland.

The Sunderland Rural District Council ave decided to ask the Sunderland and istrict Builders' Association to submit nders for the erection of 330 houses in ulwell, Ryhope, Tunstall and Castlewn.

Nottingham.

The City Council have authorised the ousing Committee to accept tenders for e erection of 242 working-class houses the Sherwood site, at a cost of 218,045 18s. 7d., and to apply to the Ministry of Health for sanction for a loan. The work will be put in hand at once.

Lewisham.

Lewisham Borough Council have rejected a recommendation by the local Housing Committee that Lewisham should join with the boroughs of Bermondsey and Deptford in the promotion of a scheme for a joint garden city.

Camberwell.

The housing report shows that over 2,000 houses are required, and a number of building sites have been selected for operations. Application is being made for a loan of £2,000,000 to meet requirements during the next three years.

Wallasey.

Formal sanction has at length been given to Wallasey's first three housing schemes for the provision of a total of 210 dwelling-houses on the Mill Lane and Poulton Road site, at a total cost of approximately £200,000.

Wing.

Refusing some months ago to entertain tenders under which houses would cost £900 each to build, the Wing (Bucks) Housing Committee has now accepted a tender under which the cost works out at £774 for the same type of house.

Mexborough.

The scheme at Mexborough for the erection of one hundred houses has received the sanction of the Ministry of Health. The Council has also received permission to raise a loan of £5,200 for the purchase of the site which is in Adwick Road.

Retford.

The R.D.C. have decided to apply to the Ministry of Health for a loan of £7,970 for the lay-out of Hallcroft Road, West Retford, and for a loan of £85,000 for the erection of 124 houses. Forty houses, to cost £630 per house, will be of the parlour type, and eighty-four, to cost £285 per house, will be non-parlour type.

Eastbourne.

Approval has been given by the Town Council of a comprehensive parade improvement scheme. It is proposed to project seaward a substantial portion of the esplanade. No estimate of the cost is available, but the borough engineer has been instructed to prepare detailed plans and also a full financial statement, to be considered at an early meeting.

Woolwich.

Sir J. Walker Smith, Deputy Director-General of Housing, has urged upon the Woolwich Borough Council the vital necessity for completing 1,000 houses this year. The council hopes to have 1,200 houses ready for occupation on the Page estate at Eltham before the end of 1920.

Bellingham.

The Housing Committee of the L.C.C. reported that the proposed purchase and partial development for housing purposes of about 250 acres of land at Bellingham, Lewisham, had been approved by the Minister of Health, subject to a satisfactory price being arranged. The total area of the site is approximately 250¼ acres, of which 47¾ acres belong to the Leathersellers' Company, with whom terms of purchase have already been provisionally agreed. It is proposed to develop the greater part of the site by the erection of about 2,355 houses for persons of the working classes.

Walton-on-Naze.

Formal sanction has been received to the Walton-on-Naze Council's housing scheme, which includes the erection of thirty-two houses on the site near the Kino Meadow on Shore Road. It is proposed that the dwellings should be semi-detached, standing on about ten rods of ground each. They will be erected in crescent form, the centre from the road to the houses being to a depth of 130 ft.

Newport.

Newport Corporation has, by arrangement with the Board of Guardians, turned the former workhouse into flats for housing families. Some of the flats have already been furnished and occupied. When the scheme is complete there will be seventy flats altogether, affording accommodation ranging from a single room to four rooms. The work of conversion has been carried out by direct labour.

Exeter.

The lay-out and the plans of the buildings to be laid out upon the Polsloe Priory site have been approved by the Ministry of Health. It is proposed that the number and types of the houses to be erected shall be as follows: Living-room and two bedrooms, 17; living-room and three bedrooms, 62; parlour, living-room, and three bedrooms (including sixteen with upstairs bathroom), 70; parlour, living-room, and four bedrooms, 8.

Wimborne.

Wimborne branch of the National Building Trades Federation has intimated to the district council its willingness to build by direct labour within a year fifty houses in connection with the council's housing scheme. A saving of £5,000 would result, it was claimed, from the adoption of this proposal. The council, while appreciating the offer, is first to ask the Housing Commissioner if his department would raise any objection to the men undertaking the work.

Newton Abbot.

There is a possibility that Newton Abbot, Devonshire, will soon be transformed from a little market town into an industrial garden city of considerable size. A syndicate has planned the erection of copper refining works, with the necessary housing accommodation for workmen, which will utilise the huge deposits of lignite in the area for an application of the electrolytic process to copper production in this country.

Housing Schemes and Motorists.

The Automobile Association and Motor Union have sent us a letter appealing to architects, builders, land agents, and local authorities to provide efficient garage accommodation, not only for present motorists, but for the large numbers of the public who will take up motoring as more cars and motor-cycles become available. In the opinion of the Automobile Association it is very desirable that in all housing and rebuilding schemes regard should be paid to the provision of private garages either singly or in groups.

The Week's News

New Retford Factory.

A proposal is afoot to erect a glass bottle factory.

Glasgow Cinemas.

Plans have been passed by the Corporation for the erection of three picture palaces.

Loughborough Memorial.

It has been decided to erect a war memorial tower and a carillon of at least forty-two bells at a cost of £12,000.

Nursing Home for Coventry.

A site has been presented for the nursing home which is to be erected as a war memorial at Westwood, Coventry.

Masonic Central Home.

Arrangements are being made for the erection of a new central masonic home in London to cost a million pounds.

Beccles Hospital.

Nearly ten thousand pounds has been received towards the cost of a new hospital which it is proposed to erect as a war memorial.

New Wesleyan Chapel for Yorkshire.

Sketches of a proposed new Wesleyan chapel for Foggathorpe have been submitted to the trustees. An estimate of the cost is to be obtained.

Furniture Making in South Africa.

Increasing quantities of South African timber are being utilised for local manufacture. Furniture making is showing active development in several centres.—Reuter's Trade Service.

Wilmslow War Memorial.

Wilmslow has now definitely decided to abandon the proposed hospital war memorial scheme, as the required sum of £10,000 cannot be raised. The cash and promises reach a total of £3,476. Various other proposals are now being considered.

New Pier for Hull.

The Corporation are preparing a scheme for a new pier and landing-stage. The pier is to be double-decked, the upper deck forming a promenade nearly 650 ft. long. There will be a floating landing-stage, about 450 ft. by 60 ft., connected by a hinged bridge.

New Royal Academy Scheme.

The Royal Academy, working in conjunction with the Architectural Association, have in hand a scheme for the development of the study of architecture. It is proposed to establish three studios, the period of study covering five years. Details of the scheme are nearly completed.

East Ham's New Sanatorium.

The residence known as The Harts, standing in twenty acres of ground at Woodford (Essex), recently purchased by the East Ham Town Council, is to be converted into a sanatorium. Structural alterations and decoration work are to be proceeded with immediately. When completed in a few months it is hoped to instal about one hundred beds in the building.

Large Concrete Structure.

A large monolithic concrete structure was floated into position in the process of building the new Pearl Harbour Dry Dock at Honolulu. It was the well to accommodate the pumps, and required 4,500 cubic yards of concrete for its construction. The well measures 96 ft. 6 in. long by 45 ft. wide, and is 60 ft. 6 in. deep. The first 17 ft. of height was built on a floating dock. This part was then floated, and the remainder of the well cast inside a coffer-dam attached to the floating base. The structure was floated into position and the sheathing removed by divers.

Bequest to R.I.B.A.

Mr. J. D. Crace, of Gloucester Place, Portman-square, W., founder and first president of the Institute of British Decorators, who died on November 18, left his drawings and sketches of Italian coloured decorations and the scrap book containing sketches of ornament and architectural details and four coloured drawings to the R.I.B.A., and his books and publications to the Palestine Exploration Fund.

Stevenage War Memorial.

Stevenage, Herts, has decided on a Portland stone obelisk, 25 ft. high, as its war memorial. The consent of the Ecclesiastical Commissioners has been obtained to the appropriation of the selected site, an open grassy space known as the Bowling Green. Mr. Arnold Wright is the designer, and the selection committee had the assistance of a committee of the Royal Academy, who examined photographs of the proposed site and its surroundings.

Board of Trade Scientific Instruments, etc., Branch.

The Scientific Instruments, Glassware, and Potash Production Branch of the Board of Trade and the Mineral Resources Development Department have removed from 7, Seamore Place, Curzon Street, W.1, to the New Public Offices, Great George Street, S.W.1. Telephone Victoria 9800. The office of the Controller of Trading Accounts has also removed to Great George Street from Gwydyr House Annexe, Whitehall, S.W.1.

Architectural Appointment.

Mr. E. Vincent King, A.R.I.B.A., who has been chief architectural assistant in the Dewsbury borough surveyor's office for some years, and deputy-surveyor during the war, has been appointed chief architectural assistant to the borough of Bridlington. Mr. King has been largely responsible for the preparation of the Dewsbury housing schemes. He was also selected as architect to the Bilston housing scheme on the day he received his Bridlington appointment.

University College Engineering Buildings.

In connection with the appeal for £100,000 for the reconstruction and re-equipment of the engineering buildings at University College, London, the total of the fund now amounts to £21,545, apart from the additional £10,000 promised by Lord Cowdray provided the total subscriptions reach £70,000. Further subscriptions to the fund should be sent either to His Royal Highness Prince Arthur of Connaught at 42, Upper Grosvenor Street, W., or to Sir Ernest Moir, Bart., at University College, London.

Birmingham Architectural Association.

At a meeting of the Birmingham Architectural Association Mr. J. E. Southall delivered a lecture entitled "Mural Decoration," in which he pointed out that a large sum of money was expended on bad, cheap, or temporary decoration. "On the day devoted to the celebration of peace," he said, "there broke out on the façade of our Council House a dreadful eruption very painful to behold. I wi not say it was mural decoration, but imagine it was so intended, and I do nc suppose that the various portraits di played were deliberately meant to b libels. The display had one merit, it wa soon over; but what guarantee have w that it may not break out again?" Th lecturer showed a number of lanter slides to illustrate the best methods c mural painting, which added greatly t the interest of the lecture. He appealed t architects present not to overload thei buildings with pilasters, mouldings, an panels, so that the wall-painter migl have some scope.

Valuable Furniture at the Victoria and Albert Museum.

A number of important pieces of furn ture, lent by the Duke of Abercorn, hav recently been placed on exhibition in th Loan Court of the Victoria and Albe Museum. The loan includes a commod which is signed Riesener, and which ha elaborate ormolu mounts, amid which i the monogram of Marie Antoinette; sideboard also inlaid with the monogra of Marie Antoinette; a fourfold Frenc screen of the eighteenth century painte with figure compositions; a painted Italia coffer and other pieces of furniture of valu and interest.

Silica Bricks.

The Sheffield branch of the British In stitution of Foundrymen recently had a interesting lecture from Professor Ree Sheffield University, who dealt with th influence of effective burning on th durability of silica bricks. He pointe out that to get the best service out c silica bricks scientific treatment bot before and after they were built into th furnace was necessary. Very often th users of silica bricks complained of th poor quality of the bricks, when the re fault lay with the too rapid heating of th furnace, which had a deleterious effect o the materials composing the bricks. I the course of his lecture he pointed ou that the opportunities for high temper ture laboratory work were much great in America than in this country.

New Theatres for Brighton.

During the hearing of an application t the local licensing justices on behalf c Sir Oswald Stoll for a restaurant an winter-garden licence for two theatres i West Street, it was explained that th premises to be licensed were part of a bi scheme, in the development of which Si Oswald Stoll intended to construct cinema theatre larger than the Londo Opera House, and a music-hall whic would be the largest in England. Th winter-garden would compare with that a the Midland Hotel, Manchester, and th restaurant would be made to accommodat 5,000 people. Sir Oswald estimated tha the outlay would be between £500,000 an £600,000. Some criticism was offered th proposal to acquire a certain number o small tenements included in the area o the new buildings covering one and a hal acres, but Sir Oswald Stoll has given a undertaking that none of these tenant shall be displaced until some other dwell ings have been provided, and as to th greater part of the site it is now known t be scheduled for destruction as slum pro perty. The Licensing Committee grante provisional licences upon terms agreed.

Current Prices of Materials

)NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
:CAVATOR AND CONCRETOR	
:avator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
›ourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
vvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
nberman, 1s. 9d. per our.	In underpinning, add 120 per cent.
ffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
tchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
›ken brick or stone, in., 7s. per yd.	Headings, including timbering, add 400 per cent.
ımes ballast, 17s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Gravel, 17s. 6d. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
sand, 18s. 9d. per yd.	Planking, 5½d. per ft. sup.
shed sand, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
eened ballast or gravel, dd 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
ıker, breeze, etc., prices ccording to locality.	Do. 6 in. thick, 2s. 9d. per yd. sup.
tland cement, 79s. per on.	Puddling, 30s. per yd. cube.
in small lots, ex ›ondon stock, 100s. per on.	Cement concrete, 4.2.1, 53s. per yd. cube.
s lime, 64s. per ton.	Do. 6.2.1, 49s. 9d. per yd. cube.
ks charged extra at s. 6d. each and credited hen returned at 2s.	Do. in upper floors, add 12½ per cent.
ınsport hire per day:	Do. in ferro concrete work, add 20 per cent.
art and horse, 26s.	Do. in underpinning, add 50 per cent.
-ton motor lorry, £6.	Lias lime concrete 41s. 3d. per yd. cube.
team lorry, 5-ton, £7.	Breeze concrete, 26s. per yd. cube.
railer, 30s.	Do. in lintols, etc., 4s. 9d. per ft. cube.
team roller, £4 10s.	
Vater cart, 30s.	
.AINER.	
›ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
nberman, 1s. 9d. per our.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6-in. 14s. 6d., 9-in. 25s. 6d. per ft.
cklayer, 1s. 11½d. per our.	Note.—These prices include digging and filling for normal depths, and are average prices.
ımber, 2s. per hour.	
tchman, 6s. 6d. per shift.	
›neware pipes, tested uality, 4-in. 3s., 6-in. s. 9d., 9-in. 7s. 11d. per d.	
st iron pipes, coated, -ft. lengths, 4-in. 4s., -in. 5s. 9d., 9-in. 8s. 6d. er yd.	
rtland cement and sand, ee Excavator above.	
ıd for caulking, 49s. 3d. er cwt.	
sket, 1s. 9d. per lb.	
ICKLAYER.	
icklayers, 1s. 11½d. per ıour.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
›ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
ffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
ndon stocks, 84s. 6d. per M.	Do. in blues, add 320 per cent. per rod.
ettons, 73s. per M.	Do. circular on plan, add 12½ per cent. per rod.
ffordshire blue, 198s. 6d. er M.	Facings, fair, 3d. per ft. sup. extra.
ebricks, 223s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
azed, salt, white, and vory stretchers, £25 er M.	Do. picked stocks, 6d. per ft. sup. extra.
headers, £24 10s. er M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
lours, extra, 130s. per M.	Struck pointing, 4d. per ft. sup. extra.
onds, less, £1 per M.	Tuck pointing, 10½d. per ft. sup. extra.
ment and sand, see Ex- avator above.	Weather pointing, 4d. per ft. sup. extra.
ne, grey stone, 62s. per on.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
xed lime mortar, 24s. 3d. er yd.	Do. 1½-in., 5s. 10d. per yd. sup.
mp course, in rolls of ½ in. 3s. 8d., 9 in. 6s. 7d., 14 in. 8s. 10d., 18 in. 11s. 6d. per roll.	Do. 2-in., 7s. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 10d. per ft. sup.
	Do. vertical, 1s. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 9s. per yd.
	Do. skirting, 6-in., 1s. 3d. per yd.
ASON (INCLUDING SLATE).	
ason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
bourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
affolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
rtland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. per ft. sup.
ith stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. per ft. sup.
rk paving, av. 2 in., 9s. 6d. per yd. sup.	Do. do. circular, 2s. 8d. per ft. sup.
ansfield red, 7s. 6d.	Circular-circular work, 10s. 3d. per ft. sup.
Usual trade extras for large blocks.)	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone, 25 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 2d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 44s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 74s., Countess 83s., Duchess 90s. per square.
Tiler, 1s. 10½d. per hour.	Westmoreland, in diminishing courses, 142s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 85s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 4s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 9d. per ft. approx.
Clips, lead, 9½d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 82s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 75s. per square.
Nails, compo, 56s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggie 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 11s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 11s. 6d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 11s. 10d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per sq.
Archangel:	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
1st £52, 2nd £49 10s., 3rd and U/S. £47 10s. per std., equals	Centering for concrete, etc., including horsing and striking, 70s. per sq.
1st 6s. 4d., 2nd 6s., 3rd and U/S. 5s. 9d. per ft. cube.	Slate battening, 23s. 6d. per sq.
Boards, 1st £53 10s., 2nd £51, 3rd and U/S. £48 10s. per std.	1-in. deal gutter board on firring, 92s. 6d. per sq.
Do. F.E., 3rd and U/S. £43.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. per ft. sup.
Battens, 3rd and U/S. £38.	2-in. do. do. 3s. 6d. per ft. sup.
Yellow: 1st £62, 2nd £51, 3rd and U/S. £47 10s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 3d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 3s. 3d. per ft. sup.
Boards, planed, U/S. £46 per std., equals 47s. per sq. of 1 in.	Do. do. do. 1½-in., 2s. 6d. per ft. sup.
Flooring, P.E., U/S. 42s. 6d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 43s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. per ft. sup.
Wainscot, oak, 3s. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 3s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 3s. 9d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 8s. 6d., 1-in. 10s. 6d., 1¼-in. 13s. 6d. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1½-in. tread, fixed, 4s. per ft. sup.
	2-in. deal strings, fixed, 3s. 9d. per ft. sup.
PLUMBER.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 74s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. per ft.
	Do. ¾-in., 2s. 8d. per ft.
Lead, milled sheet, 57s. 6d per cwt.	Do. 1-in., 3s. per ft.
Do. drawn pipes, 58s. per cwt.	Do. 1¼-in., 3s. 6d. per ft.
Do. soil pipe, 63s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 9s. per ft.
Do. scrap, 29s. per cwt.	Do. 3-in., 9s. 9d. per ft.
Copper, sheet, 2s. 8d. per lb.	Do. 4-in., 13s. 9d. per ft.
Solder, plumbers, 1s. 5d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Do. fine, 2s. 1d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 7d. per lb.	Do. 4-in., 3s. 5d. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 1d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 43s. 6d. each.
	Baths only, with all joints, 34s. 6d. each.
	Lavatory basins only, with all joints on brackets, 26s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4¼d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7½d. per ft.
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing in beads, 21 oz. 1s. 2½d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Cathedral, ordinary, 9¼d. per ft.	Patent glazing in rough plate, normal span, 2s. to 2s. 3d. per ft.
Do. double, 1s. 0¼d. per ft	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 6d. per ft. sup.
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
	Metal lathing, 2s. 10d. per yd.
Labourer, 1s. 8d. per hour.	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
	Do. vertical, 3s. 10d. per yd.
Chalk lime, 65s. per ton.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Hair, 33s. per cwt.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Sand and cement, see "Excavator," etc., above.	
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
	Do. in Thistle plaster, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Sawn laths, 3s. 8d. per bdl.	
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9¼d. per ft. lin.
Sirapite, 65s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3¼d. per ft. lin.
Do. fine, 66s. 6d. per ton.	
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
Labourer, 1s. 8d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
French polisher, 2s. per hour.	Knot, stop, and prime, 6d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 2d. per yd. sup.
	Do. subsequent coats, 1s. per yd. sup.
Genuine white lead, 87s. per cwt.	Do. enamel coat, 1s. 9d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
	Figured do. do. 7s. 9d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	French polishing, 1s. 9d. per ft. sup.
	Stripping old paper and preparing, 2s. per piece.
Turpentine, 10s. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
Liquid driers, 20s. per gall.	Varnishing paper, 1 coat, 14s. per piece.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Knotting, 29s. per gall.	
Distemper, washable in ordinary colours, 55s. per cwt.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
	Do. each subsequent coat, 1s. 1d. per yd. sup.
Petrifying liquid, 3s. 6d. per gall.	
Double size, 6s. 7d. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	
Do. Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per ton.
Erector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt.
Cast-iron, heavy	Fixing only corrugated sheeting, including washers and driving screws, 1s. 5d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £46 per ton.	
Do. Galvd., £57 per ton.	
Corrugated sheets, black*	
Do. Galvd., £55 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	

NOTE: The prices have been amended to cover the recent increases in Railway Rates.

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Our Small Advertisements

A number of interesting small advertisements will be found on page xxvii.

The county land agent at Boston requires the services of an architectural assistant and a quantity surveyor.

Assistant quantity surveyors are required by Mr. T. Sumner Smith, of Manchester.

The County Architect of Southampton desires an architectural draughtsman at a salary of £250 per annum, and an accountant and junior quantity surveyor at a salary of £156 per annum.

Vacancies are announced by the Cornwall County Council for a senior draughtsman at a salary of £300 per annum, a junior draughtsman at £190 per annum, and a tracer at £120 per annum.

Messrs. Jackson and Fox, of Halifax, are advertising for an architectural assistant.

A first-class head assistant is required by an architect, an architectural draughtsman for London, and a general business manager, with knowledge of shopfitting, and a shopfitter's estimator are required for the Midlands.

An architect with small country practice desires partnership with an established firm of country architects.

The Abertillery and District Hospital Committee are inviting tenders for the erection of a hospital at Aberbeeg, Mon., and the city of Nottingham for the erection of fifty-six houses on the Coppice Road site, and twenty-four houses on the Wells Road site.

Coming Events

THURSDAY, FEBRUARY 12.

Bartlett School of Architecture, University College, Gower Street, London.—"English Architecture in the Nineteenth Century," by Professor Simpson. 5.30 p.m. Admission by ticket.

WEDNESDAY, FEBRUARY 18.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Evolution in Modern Methods in Industry," by Mr. W. W. J. Grosart. 7.30 p.m.

FRIDAY, FEBRUARY 20.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture, "Some Points in Reinforced Concrete Design," by Mr. H. Kempton Dyson. 6 p.m.

THURSDAY, FEBRUARY 26.

Bartlett School of Architecture, University College, Gower Street, London.—"The Trend of Architectural Thought in England To-Day," by Professor Simpson. 5.30 p.m. Admission by ticket.

Large Timber Deal

The largest timber deal ever carried through in this country was completed last week. It covers the whole of the Government's holdings of soft woods in the United Kingdom—about 300,000 standards (more than 50,000,000 cubic feet), of an approximate value of £8,000,000. The purchasers will be a syndicate open to members of the importers' section of the Timber Trade Federation.

Sales by the Department ceased on Saturday. As from February 1 the Board of Trade goes out of the timber-importing business, leaving it to the trade.

Prices are now being arranged at conferences between the Director of Timber Disposal (Mr. Montague L. Meyer) and a committee representing the syndicate. It has been arranged that the Department shall continue the distribution until all the stocks are in the hands of the purchasers.

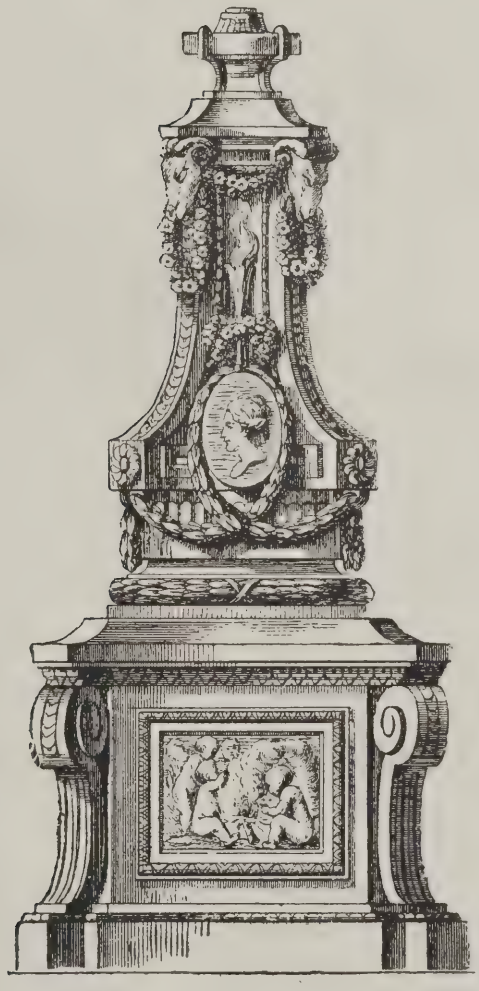
Irish Housing Grants

The Local Government Board of Ireland have issued particulars of the conditions which will govern the grants to be made to private persons constructing houses under the Housing (Additional Powers) Act, 1919. The grants payable in the case of houses which comply with the conditions prescribed by the Board and which are completed within twelve months of the passing of the Act are as follows: (a) houses containing living-room, parlour, and three or four bedrooms, and comprising not less than 920 sq. ft. of floor area—£160 per house; (b) houses containing living-room and three bedrooms, and comprising not less than 780 square feet of floor area—£140 per house: and (c) houses containing living-room and two bedrooms, and comprising not less than 700 sq. ft. of floor area—£130 per house. No grant will be made in respect of any house which has more than four bedrooms or a floor area in excess of 1,400 sq. ft.

Wednesday, February 18, 1920 Volume LI. No. 1311

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



DETAIL BY DE LA FOSSE (VI.).

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 6.—Chapel in the Church of Santa Maria Ara Cœli, Rome

Photo: R. Huth.

The twenty-two large columns separating the nave from the two side aisles of this church are of different sizes and materials. They are probably the spoil of earlier buildings. Twenty are of Egyptian granite, and two of marble, and the bases and capitals differ. Portions of the church are said to be of the sixth century; but the façade contains a fragment of Gothic which seems to refer it to the fifteenth century. It stands on the site of the temple of Jupiter Capitolinus.

THE
ARCHITECTS' JOURNAL
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The Building Guild

THERE is something pleasant about the idea of a Building Guild. It revives recollections of a picturesque period in our national life. It is quaint and romantic. One thinks of old cities and older towns. The turbulence of the Middle Ages rings through it, in colour, in costume, in form, all that is associated with vigour and virility comes back with these memories. There is a sense of good fellowship, of skill in craft, of vitality in art, that makes the idea of such a revival attractive, at least to an architect. If it be true, as Browning tells us, that "after the last returns the first, and what began best can't end worst," stranger things may happen than that the twentieth century should reproduce fifteenth century ideas in a new form.

The whole question is whether such a revival can be real and not stagey. The theatre gives us the costume play, and makes us somewhat envious of the latitude in form and colour which was allowed to our predecessors, but one would hesitate to appear in Piccadilly in slashed doublet and trunk hose, parti-coloured and cross-gartered, not only by reason of lack of courage, but because of the invading doubt that such raiment would have no real relation either to our own feeling to life or to the common conception of it which we share. Pageants appear to be for play; work seems a deadly dull and prosaic business. The contrast may be, probably is, due to a false valuation, but there it is, and not to be artificially overcome. We may work at our play; we are said to do so, but I am afraid we cannot play at our work, and if the Guild Organisation of the Building Industry is to supplant the present one it must present the possibility of the execution, efficiently and economically, of the great constructive tasks laid on this generation.

That it does mean supplanting the present organisaion there can be no doubt, or at least it means dropping one of the principal factors in it and providing for the part which that factor plays. In other words, the guild would eliminate the contractor. Its real problem is, Can it perform the functions of the contractor? The contractor is in being, indeed in vigorous being. No more vigorous body exists than the National Federation of Master Builders; and the writer has a belief—it may be erroneous—that the fact of being is a proof of necessity; that no individual or institution can continue to exist in health and vigour that is not filling some place and serving some purpose in our social organisation; that when they cease to do this they tend to disappear Further, there is an historic basis for the appearance of any definite social factor, and this is certainly true of the contractor. He was not always there. He is no eternal part of the building process, as are the architect and the craftsman. While the world lasts and men build, design and execution are inseparable. One may be wretched and the other clumsy; there they are, and there they always will be. Not so the contractor. He appeared in time and may disappear. As long as he is necessary he will be retained. When the functions which he performs can be discharged in some way that will produce less friction and ensure the same economy, he will be no longer required, and with or without thanks may take his congé. How did he come into being? A date for him cannot be fixed, but it would be surprising to find that he is more than a century old. Looking back to the beginnings of one's training in an architect's office, which is inside a period well within the limit laid down, one can remember plans, the margins of which were garnished by a long list of signatures. There was the mason and bricklayer, the carpenter and joiner, the slater and tiler, the plumber, the painter, and the glazier. We had no builders in those days—at least, none who built the whole of a building. They were all builders of parts. One finished with the walls, the other with the floors. One was concerned with the interior, another the exterior. The master builder, if there was one, was the architect, whose business it was to co-ordinate these activities and resolve the disputes that arose out of the too often clashing interests.

And what a business it was—first, to determine the degrees of responsibility for delay and damage as between one trade and another; secondly, to escape if possible the concerted endeavour of all the trades to throw that responsibility upon the architect himself. Most men love an easy life, and little wonder if in time the architect welcomed the individual who would undertake for him, not a part of a building, but the whole of it; who would relieve him of all these marginal difficulties and disputes; who would, if need be, knock the heads of the bricklayer and carpenter together, would shake up plumber and painter, leaving the architect clear of the turmoil to devote himself to the more conducive work of design. Who is going to play this part in the Building Guild? When the carpenters appear on the job to find that the bricklayers have left undone something which must be completed before the carpenter can proceed, or when the carpenters in their anxiety begin before the brickwork is set, who is to adjudicate on the dispute and enforce the judgment when there is loss of time because the preparatory work for the plumber has been neglected? and when the painter's work is marred by the reappearance of some other tradesman to complete work that should have been done before, who is to be the judge over these things? Not that the problem is insoluble. It may be that the various craft unions might agree to accept the decision of someone appointed by the National Federation of Building Operatives, or it may be that the architect will have once more to resume the unwelcome task. There at least the problem is. Not a new one, but an old one. Up to the present the contractor is the best solvent of it. If he is to be replaced by the guild it must evolve some machinery for the purpose. Would the architect welcome his ancient task were it reimposed? And would the operatives accept him as their judge?

Then there is the financial factor. The cost of building is a glorious uncertainty. It has been said that the fool builds, the wise man buys. In other words, that to take risks is folly, to play for safety is prudent. The system of contract is like other systems—a matter of

evolution. In the days of slave labour it was unnecessary. In the early days of free labour it was yet to evolve. Buildings erected out of the spoils of war or the gifts of religious devotees were not determined by considerations of economy. But as man grew more used to values, and a clearer perception arose that all things have their price, as the business spirit emerged, building became more and more a business transaction, the essence of which was to have some definite idea of what you were to pay for the commodity you received. What would be the cost of the labour? What would be the cost of the material? Who could say? So you had days works, and time and line contracts, with percentages on costs, often totalling in the end to amounts which left architects dismayed, and, it might be, clients insolvent. Some certainty had to be arrived at. Somebody must be found who would stake his opinion on the matter of cost by an offer to produce a given building for a given sum. Such a one appeared in the contractor. He took risks, and he who takes the risks will always ask to take the profit. If he can escape the risk and take the profit, you may be sure he will, but never willingly take the risk and let the profit go. So the contractor was a kind of heartsease to both architect and client. He gave them peace and gave them security, and for both these things men will pay. This, then, is the second problem for the guild. How can it give the single tender which takes into account the claims of all the trades, which adjusts these claims, which discharges them for a given sum paid by the building owner? The guild may have a great place in the future. The writer, for one, hopes it has. If it can restore joy to work it will bring beauty to building and general gladness to life; but this is a practical world which depends upon the successful solution of practical problems. Two principal problems that the movement has to face have been here outlined. Those who desire it and seek its success will do well, having dreamed their dream, to wake to the necessity of realising it under the actual conditions that surround the work of the builder.

H. BARNES.

Notes and Comments

Ready-made Designs—Cheap

WHY employ an architect? At one of the stalls at the Ideal Home Exhibition designs for cottages are being sold cheap—at seven-and-sixpence each (coloured), if we remember rightly. Our recollection of the price, however, is somewhat hazy, because we have tried hard to forget all about so unpleasant an incident. But the memory of it haunts us like the recollection of a hideous dream; whereof the telling may dissipate or transfer the disagreeable impression. To what use is it expected that these reach-me-down designs will be put? It is said that there is a brisk sale in them. Who buys them, and why? Hardly, we think, the architect in search of hints to help him in making his own design. More likely the builder who wants to evade the architect, or the handy man who thinks that with this help he can build a cottage home for himself. As we are strongly of opinion that neither of these persons should be encouraged to the detriment of the architect, we protest most emphatically against the promotion of that object; and we have no hesitation in asking the R.I.B.A. (which, having organised a series of meetings at Olympia, has a *locus standi* there) to repudiate the policy of this traffic in cheap designs. It is a duty the Institute owes the profession it represents.

Our New Front Cover Illustration

In furtherance of our aim to avoid the monotony of perpetual repetition, we change this week the design on our cover. If it be objected that the Medusa shown in the new device has too mild a countenance, it must be remembered that, according to some legends, the lady was at first a beautiful maiden. That she lost none of her facial charm when Athena (Minerva) changed her hair into hissing serpents would accord with the spirit of ascetic mysticism, and is not altogether alien to heathen mythology—beauty luring to destruction, pleasure carrying its sting. There is something horribly fascinating about what Milton called "Gorgons, and hydras, and chimeras dire." Everyone who looked at Medusa's head was turned to stone; which may (or may not) account for the origin of caryatids and atlantes, but certainly prompted Tennyson's terrible line: "Gorgonised from head to foot with a stony English stare." The medallion, which, as the egg-and-tongue and the fillet-and-bead mouldings would suggest, was devised by an architect, will admit of many decorative applications, whether in stone, metal or plaster; the beauty and terror of the subject being, indeed, strangely and peculiarly attractive.

Housing the New Poor

What type of house will suit the New Poor? As the New Poor are themselves of several types, so must their houses be. We believe, however, that just now a typical demand is for houses to cost about £2,000. They are to contain drawing-room, dining-room, five bedrooms, bathroom, and kitchen. As, assuming the use of the ordinary materials of construction, it would not be easy to provide all this accommodation at the price, an opportunity arises for the reintroduction of the weather-boarded house lined with concrete or its equivalent, and built on a concrete foundation. Such a house should, if it escape the flames, last two hundred years or more and the materials would lend themselves to easy conformity with English traditional style.

Architectural Libraries

Architectural libraries are looking up. News that the A.A. library is being set in order reminds us that at the Soane Museum also the library is being more conveniently arranged. Surely the library at the Patent Office, which might easily become what it certainly ought to be—the finest technological library in the world—is in need of augmentation. It has very good architectural, building, and civil engineering sections, but these, like all the other sections, might be made much more complete. Greater public interest in them would secure this result. Under the new Act the free public libraries throughout the kingdom are to be greatly improved on the technical side. Altogether the outlook for technical publications is very promising, and the new view of free libraries as treasure-houses of technology as well as free fiction exchanges, may have a considerable effect on planning. Our own little library of technical books at Tothill Street is steadily growing, and is freely open for reference by architects.

The Assistants' Union

We are glad to notice that the Architects' and Surveyors' Assistants' Professional Union is resolved on celebrating in an enterprising way its first anniversary. There is to be, on March 4, a mass meeting at Caxton Hall, Westminster, where there should be a huge muster notwithstanding the simultaneous meetings that are being arranged for most of the great centres in the kingdom. In the meantime, a meeting is to be called for February 17 with reference to the Welfare Committee of which the reconstitution and re-establishment has been an item in a strenuous year's work of the Union. This

ıeeting will be in some degree ecumenical, as it is to be :tended by distinguished members of the great profes- ›onal societies connected with architecture. This means, ıd any others that can be devised, for bringing together ıe representatives of various professional interests on common platform should be sedulously cultivated. A ıefect of pre-war professional organisation was its :ndency to segregation, which often led to coolness if ›t to actual antagonism. Evidently the Assistants' Jnion realise the wisdom of fraternal co-operation where ıat is possible. Working in that spirit, the Union is ›und to succeed in its legitimate aims; one of which, we :e glad to see, is to provide the provincial assistant with ›tter facilities for education than he has hitherto ıjoyed. This is an enlightened policy, and before long ay reach important developments. So also will the Jnion itself if its present well-conceived policy is gorously and untiringly pursued.

'he Architect and the Hardwareman

Architects and builders alike are complaining bitterly : tyrannous rings in the wholesale ironmongery trades. has been seriously suggested, indeed, that it would : in many ways advantageous to employ the local black- nith to make simple door furniture, for example, from :etches supplied by the architect. This would have ıe triple effect of encouraging craftsmanship, of securing return to simplicity in design, and of bringing the ring- aders to their senses.

Rings and Combines

"Rings and Combines in Building Trade: Architect's llegations." Such is the sensational heading to an ticle in a provincial daily paper of high standing. It a gross slander—quite unintentional, there is no doubt. n reading the article one finds that the architect has ›t a single word to say against builders. His legations refer to builders' merchants, against whom, : says, he is prepared to prove that they are keeping up ices by means of rings and combines. There is, he :clares, a ring or combine in almost every article that :rtains to housing construction. Further, we notice that e abnormally high prices of building materials were ade the subject of a resolution at the Hull City Council st week, and it was decided to urge the Government to itiate an enquiry into the origin of these prices. To is news item it is naively added, "Local builders wrote letter assuring the Council that they were in no way sponsible." Of course they were not. Builders suffer ›m the high prices of materials at least as acutely as e general public. Added to this suffering, the impli- tion that they are the culprits, when they are merely e victims, is simple cruelty. But in such matters the ıblic has no discrimination. Building is dear: there- re blame the builder!—or, at all events, "the building ade," which, in the public view, is a completely com- ehensive term, lumping together in fatuous confusion e inoffensive builder and the wicked ring that oppresses m. The enquiry should certainly be held, even if its le result be to free the innocent from unjust imputa- ›ns.

Direction Tablets

Sir Cecil Smith is advocating the erection of a number tablets at the entrance to every village and small town England, giving a summary of the local objects of ıtiquarian interest in the district. It is an excellent ea, and one that has been in a measure anticipated ı the Continent, where district maps are exhibited at e railway stations, and the position of the more ıportant buildings is indicated. There is much to be ›ne in this country in the matter of directional facilities; ıd it should be done decently. A beginning should be ade with the streets of London, which are an almost ueless maze.

Furniture at the V. and A. Museum

The Duke of Abercorn has lent to the Victoria and Albert Museum a number of important pieces of furniture, which have been placed on exhibition in the Loan Court of the Museum. They include a commode signed "Riesener," and having elaborate ormolu mounts, amid which is the monogram of Marie Antoinette. There are also a fourfold French screen of the eighteenth century, painted with figure compositions, a painted Italian coffer, and other valuable and interesting pieces.

A Housing Point

In the public mind there is much confusion with respect to the nuances of building. Builders have been held up to reprobation because of the high price of building materials—a condition that builders have more reason to abhor than have the general public. Then, architects have been severely condemned for the inconvenient planning of small houses—a class of work in which they had neither part nor lot. And now an esteemed correspondent calls our attention to the loose way in which the general public speak of "the building trade" as if it were one and undivided, and were responsible not only for the sins of the rings of material merchants, but also for those of the speculative builder. "Now," writes our correspondent, "the building trade and the builders of small houses were not one and the same thing; and the latter having been wiped out the former are looked to for their work." The general public cannot be expected to discriminate between such nice distinctions, and hence it unfortunately follows that they do not understand the difference in price between a house that is properly built from the designs and under the supervision of an architect, and one that is run up without these safeguards. All that is patent is that the accommodation is the same though the price differs, and it is nearly always futile to assure them that with the higher price there is better value for the money.

Army Huts for Garages

Architects who are asked to design cheap garages may be reminded that the half-sections of army huts that are being sold at £40 or £50 (that is, for the half-section) lend themselves admirably to adaptation as garages for the accommodation of the runabout car for which there will be a tenfold demand now that we are threatened with exorbitant railway rates. In preparing new housing lay-outs architects should not forget to allow space for a small garage in connection with each house.

Rubens Drawings at the R.I.B.A.

The Institute has recently acquired for its library a collection of the original drawings prepared for Rubens's "Palazzi di Genova." This work, for which the library is indebted to the generosity of Mr. St. Clair Baddeley, illustrates, in a series of measured drawings, made in 1607, a number of Genoese villas. Whether Rubens himself made the drawings is a doubtful point; for, as Mr. W. Grant Keith says, in an article in the "Institute Journal," "At least two different hands are discernible in the drawings, . . . and it seems improbable that he did more than direct the tedious and prolonged work of measuring up the no small number of thirty-five buildings which he illustrates. Local draughtsmen no doubt assisted him, and it is observable that the handwriting on the drawings describing the various parts of the buildings surveyed is in an Italian script." The drawings, by whose publication Rubens intended to hasten the decay of "barbarous Gothic," are, in fact, rather carelessly done. They are nevertheless an interesting acquisition from the architectural as well as the historical point of view.

Architectural Causerie: On Lighthouses

THE history of architectural engineering in Great Britain and Ireland has yet to be written. Some there are who would prefer to see such a history extended to embrace the most important works of this class in the world. When a full list of illustrations has been prepared of the harbours, arsenals, bridges, lighthouses, and fortifications, with explanatory text, architects will express astonishment at the extent and magnitude of the works of the giants.

* * * *

The subject of British lighthouses affords in itself scope for a fine folio volume, beginning with extracts from Bede's "Ecclesiastical History," regarding the erection of towers along the eastern coasts of Britain by the Romans, and continuing to the days of the seventh Edward. Mention has been made in these columns of the famed tower of St. Katherine in the Isle of Wight, which, together with a small chapel, watched the waters of the Channel early in the fourteenth century. This tower still rears its monkish cowl above the high cliffs, although its eye no longer flashes o' nights. There is also reason to believe that the good fathers who lived on St. Michael's Mount used the ornamental feature known as Michael's Chair from which to show a signal of fire to local fishermen. There can be no doubt regarding the solicitous regard of the ecclesiastics of the Middle Ages for the welfare of those who risked their lives at sea in order to bring wine and oil for the service of Mother Church. Hence the reason for the lantern on Holy Island, which Henry the Eighth put out, and the pharos at Cape Cornwall dedicated to St. Nicholas, which escaped the ken of Henry.

* * * *

The practice of using the summits of church towers near the coast as lighthouses was developed in the fourteenth century. In fact, some of the baskets used for burning fuel of the beacon lights are still encountered —obsolete since they warned the shires of the approach of the Spaniard. A full account of the evolution of the British lighthouse awaits all and sundry within the walls of Trinity House on Tower Hill. Wyatt, the architect of this refined and particular gem of English building, evidently intended to reveal to unthinking Londoners the humane function of the Trinity Brethren when he introduced a pharos into the midst of the sculptural decoration.

* * * *

While bluff King Hal was extinguishing the chief lights of the Church, he curiously enough incorporated "The Brotherhood of the Most Glorious and Undividable Trinity," leaving the charter to be confirmed by Elizabeth and her royal successors. Rumours of the band of pilots at Leigh in Essex had reached the King's ears, together with a list of their valuable services to shipping. In addition, the monarch had in view the remodelling of the Navy, and was zealous for the preservation of his great ships. At the beginning of the seventeenth century the Corporation of Trinity House had many buoys and beacons in their care, and were busy collecting dues and asserting authority, besides acting as Conservators of the Thames below London Bridge. Some authorities incline to the belief that the first modern lighthouse to be erected in England was the one built at Caister in 1600, the next being the one built at Lowestoft in 1609.

* * * *

Once the favourable opinion of the Attorney-General had been obtained, regarding the power of Trinity House to cause lighthouses to be built, the building of such works proceeded apace; but private enterprise still competed with authority for the privilege of lighting the seas, and it was due to private enterprise that three towers rose in succession on the Eddystone. Pepys visited the Brethren at Trinity House on several occasions, enjoying good music, discoursing on the great advance made in the organisation of the Navy, and speaking with eloquence on the necessity for the provision of trustworthy beacons.

* * * *

Before the close of the seventeenth century all sorts of propositions had been placed before the authorities petitioning for the erection of a lighthouse on the jagged Eddystone reef. Nothing appears to have been done, however, until Winstanley, a mercer of Littlebury, with a turn for things mechanical, came forward with a scheme which he put into execution in 1695, and continued until 1698. While Vanbrugh was constructing the gun wharf at Plymouth Dock, Winstanley's men were fashioning the timbers to form the three-storey cupola of elegant design which was intended by the architect to crown the stone tower. At the end of 1698, sailormen standing up Channel from Ushant caught the gleam of its tallow candles several leagues distant. Despite its architectural elegance, more suited to the groves of Hampton Court than to the full rigour of Channel weather in winter, the contraption stood for nearly five years, when, on November 20, 1703, it was swept away with the contriver inside.

* * * *

The making of lighthouses seems to have provided pleasant occupation for the spare hours of those old mercers of Wren's day. John Rudyard, who had a shop in Ludgate Street (now Ludgate Hill), next assayed his skill in the fashioning of a strong tower of timber. This tower rose 92 ft. above high-water mark. It stood for forty-eight years, and was finally destroyed by fire in 1755.

* * * *

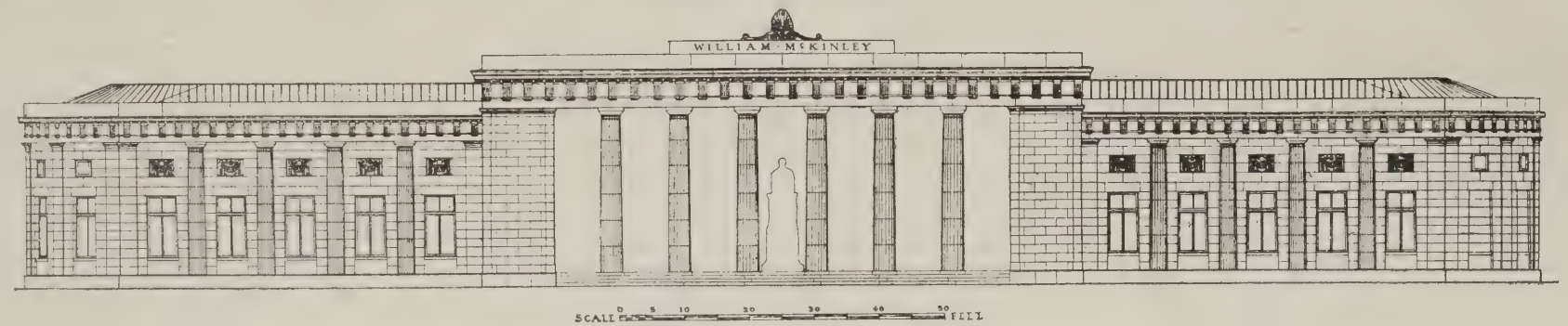
The new lighthouse built by the owner of Winstanley's patent was designed and constructed by John Smeaton, the son of a lawyer at Leeds. Smeaton as a boy spent his spare hours making models of lathes and fire engines. Small wonder, then, that he should have become an architectural engineer, or that his election to the Fellowship of the Royal Society led to his becoming one of the leading authorities of his day on mills, canals, bridges, and lighthouses. Smeaton, after examining the site and inquiring into the construction of the earlier lighthouses, decided that stone was the only material suitable for such an exposed situation, although the Trinity Brethren thought otherwise, and Weston, the proprietor of Winstanley's patent, opposed his architect on the score of cost. The architect, however, eventually gained his point, and soon the quarries at Portland were in full swing carrying out his orders. Two years passed from the date of Smeaton's first visit to the reef to the time when the elegant balcony and lantern were added, and the architect fixed the gilt ball and finial with his own hand; for in those days it was the special privilege of designers to crown their works. We can imagine the pride of Smeaton when the light first shone forth from the tower, on the night of October 16, 1759, and the joy he experienced when he wrote in his diary: "This day the Eddystone Lighthouse has, thank God, been completed. It is, I believe, perfect, except that it inclines a quarter-of-an-inch from the perpendicular towards the north-east." Eighty-nine years afterwards it was accurately measured to see if any defects had developed, but no deviation could be found from the original position. In 1807 Trinity House took over the management of the lighthouse, and a revised system of lighting was introduced. Some time later it was discovered that the rocky foundation was being undermined by the action of the sea, and a hundred and twenty years after Smeaton's triumph the foundation-stone of a new and larger edition of the eighteenth-century lighthouse was laid.

AERO.

Modern American Architecture. 1.—William McKinley Memorial, Niles, Ohio

McKim, Mead, and White, Architects.

GENERAL VIEW FROM STREET



ELEVATION OF MAIN FACADE

Statuary always looks best in an architectural setting, and Messrs. McKim, Mead, and White, here show with what monumental dignity columnar treatment lends itself to such an occasion; the stately and serene beauty of the structure depending on the use of simple elements in exquisite combination and proportion.

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Memorial to President McKinley

IN the United States of America the three arts are much more intimately associated than they are in this country. Their exponents work together more concordantly. Consequently, the decora-ve features for which the architect of a building enlists e co-operation of the painter or the sculptor seem to be ally an integral part of the scheme, and not fortuitous ldenda, or sudden afterthoughts—as someone has said, ioting from one of the Gilbert and Sullivan operas, the leged adornments of many a building on which archi-ct and decorator have worked in seemingly blatant dependence of each other, are often "a fortuitous con-urse of irreconcilable antagonisms." In America ere is a more harmonious blend because there is a more mpathetic understanding between the architect and e other artists, and because they work in co-operation om the outset. At home we are apt to say, "Here is a ilding: decorate and adorn it." The American pro-dure is for architect, painter, and sculptor to collabo-te in the preparation of a comprehensive scheme.

This method of procedure—this constant and close ssociation of the artists—is highly educative to all con-rned. It is only reasonable to suppose, for instance, at in course of time the architect obtains a thorough sight into the possibilities of sculpture; and thus it appens that at the present moment the great American chitects are unsurpassed in giving an appropriate chitectural setting to statuary. Of this felicity of commodation the most recent example is that of the emorial to President McKinley which has been set up Niles, Ohio, for the illustration of which we are in-bted to the courtesy of "The Architectural Forum."

The history of the memorial is as follows: In 1914 the ational McKinley Birthplace Memorial Association—a ciety chartered by Congress in 1911—proposed to erect memorial to William McKinley in his native city, and eld an architectural competition. The following iotation from the programme of the competition gives e character of the project: "The projected memorial ill take the form of a monument and a building so rouped as to form an ensemble. The monument will onsist of a full-figure statue of President McKinley, with itable pedestal and architectural setting. The building, while destined for practical service to the community, should nevertheless be designed in the spirit of a memorial."

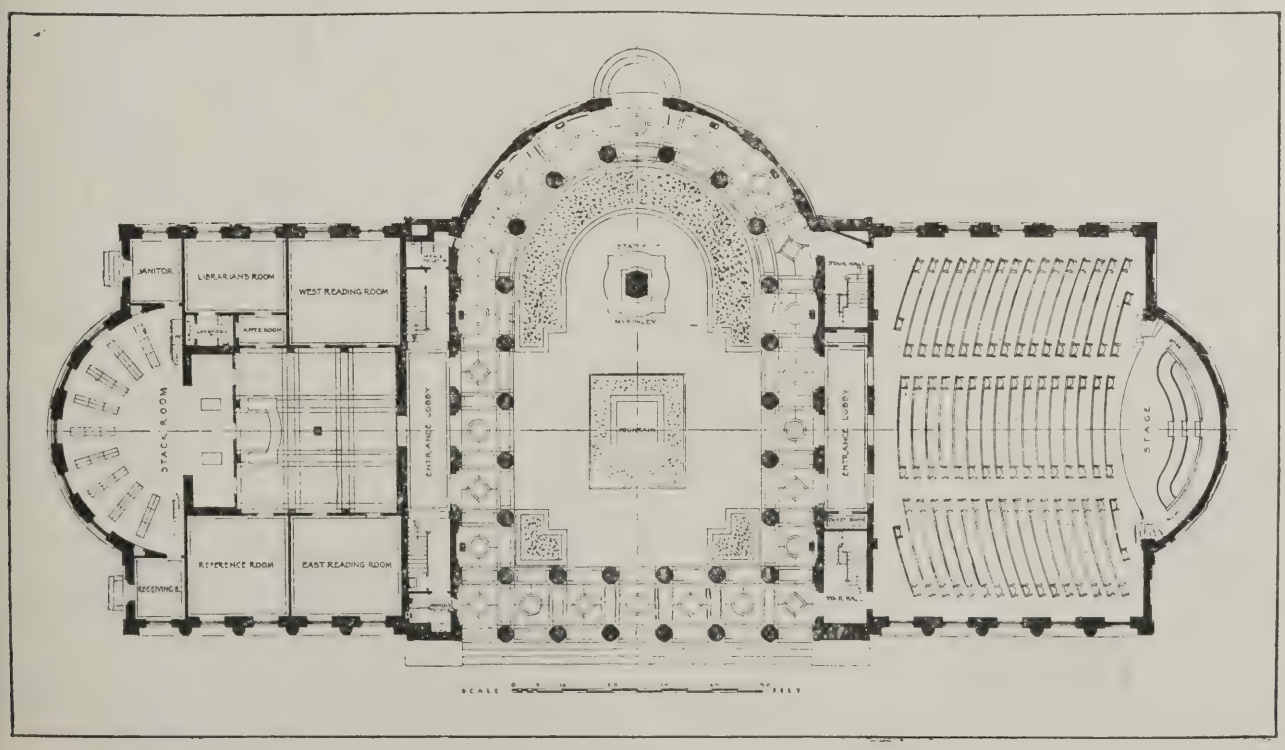
The requirements were an auditorium, a public library, a museum room for McKinley memorials and the meeting of local posts of war veterans, offices for trustees, and service rooms. Settings were to be provided for tablets to donors and busts of local historical personages and associates of the late president.

Messrs. McKim, Mead, and White were selected as architects in the competition, and Mr. Massey Rhind was appointed sculptor by the building committee.

The building was carried out by the architects without a single important deviation from the competition drawings, and an inspection of the accompanying illustrations will show how appropriate to the problem their solution has proved to be. The memorial statue is placed in an open atrium surrounded by a colonnade in the Doric style, and of great delicacy of proportion. The auditorium and library are both street-level rooms, and the isolation of the auditorium permits of an economical operation of the heating plant, as well as insuring a quiet library.

The exterior of the building is faced with white Georgia marble and the statue and pedestal are of the same material. The ceiling of the open colonnade shows a very interesting use of architectural terra-cotta. A classic coffered ceiling was designed, and this was executed in polychrome terra-cotta of a cream white ground, upon which the ornament is picked out in the primary colours of the ancient Greek palette—blue, yellow, red, and green.

The colour scheme was worked out after careful study of the available records of Greek polychrome decoration and executed with the hearty co-operation of the terra-cotta manufacturers, who extended themselves to produce the clear and brilliant colours in the small quantities and confined spaces which the style demanded. The effect produced is of great beauty and decision, due to the use of limited quantities of strong colour, rather than broader masses of "pastel shades," which are often employed by modern designers in their all too rare excursions into this field of designing in colour.



WILLIAM McKINLEY MEMORIAL, NILES, OHIO: PLAN OF LIBRARY, COURT, AND AUDITORIUM.

Art in the Kitchen

By ALLEN FOXLEY

EVERYONE has heard of that eminent prophet of the simple life who, seduced in a weak moment by the beauty of a wayside stone, bore it to his hut and laid it on his table, only to cast it forth again incontinently when he found it needed dusting. We have never thought the better of the worthy man for this impatience, and we fancy, moreover, that his deed may not be without a moral for these troubled times.

Let us contrast with our egregious philosopher another, unknown to fame, but perhaps none the less edifying on that account. A lady of our acquaintance chanced a few years ago to pass some time beneath the roof of a modest hostelry in Rouen; the spotless kitchen was adorned with several brazen vessels of notable dimensions, and polished to the highest pitch of radiance, but not apparently used in the service of the house, and as Madame the hostess was the busiest of women our friend had the curiosity to ask her how she found time to keep them clean. "That, madame," responded our hostess, with a smile as brilliant as her pans, "is a little pleasure I reserve for myself on the blessed Sunday!"

Nor need the channel be crossed for an exemplar. Our own youth was passed largely in the company of a vigorous Yorkshirewoman, nominally cook in a large houseful of children, but by adoption and grace also laundress, deputy house- and parlour--maid, nurse and warden of the poultry-yard—labours enough, it might be thought, to sate even her indomitable energies. But no; her stone-floored kitchen showed ever a broad whited margin, while along the wall extended row upon row of tin lids, for the most part long out of service, but kept always shining like her virtues. Woe to him who by foot or finger defiled these holy things! We hear and feel her powerful admonitions yet, though this many a year she has been, we reverently believe, adding lustre to the gold of the heavenly Jerusalem. And there have been and are many a thousand such; why, our own present friend and helper, contrary to express orders and for the sheer joy of the thing, has almost obliterated by friction the chaste lettering with which a great artist stooped to adorn the plate distinguishing our door.

The discerning will have surmised that we are not moved to these relations merely by an amiable elderly failing for anecdote, but by the contemplation of certain tendencies in the discussion, now omnipresent, of domestic detail with reference to housing. The pundits tell us that we are to flaunt no more the brazen knob; our taps are no longer to shine; our stoves are to be shorn of all bright parts, and our pans forbidden to give back the sun; our silver is to be supplanted by enamelled ware, and the refulgent knocker, so eloquently hymned by the ingenious "Aero," is to yield room to the trivial bell-push, smugly vitrified and staid of hue. We are assaulted with intricate geometrical diagrams showing how many steps, indicated by the dotted lines, the efficient can afford between milk-jug and tea-pot, and the calculus is brought into play to demonstrate the maximum amount of motion, referred to the edges of the gas-stove as axes, which is justifiable in the performance of a pudding. The Domestic Expert of the well-regulated future is to recline, we gather, in a padded chair, her manicured right hand toying with cigarette-casket or bonbonnière, while her left strays languidly o'er the sterilised electric buttons which control the cooker, the vacuum auto-cleaner, the patent bed-maker, and the pianola. Verily, an engaging vision.

Now, we would not be understood as questioning the discreditable truth that cheap labour in the kitchen has led in times past to a vast deal of unconsidered and inconsiderate planning, now unhappily somewhat stereotyped, which cries to heaven for amendment, but we own to a real dread of anything which tends to introduce into the domestic sphere the pestilent heresy, encouraged by popular leaders who ought to know better, which teaches that the work by which each of us lives is a burden to be got through somehow, if possible by mechanical means, so as to provide leisure for the all-important occupations of idleness. Many a kitchen is admittedly far too much a *salle des pas perdus*, but we have little confidence in the spiritual health of maid or mistress who counts her grudging steps over her daily task, her heart in the picture-house, the hockey-field, or the club, to name no more blameworthy relaxations. Rather, modifying but slightly the words of Shakespeare, we would that she "went to the scullery in a galliard and came back in a corranto; that she did not so much as draw water but in a sink-a-pace"; that she put her love of beauty into the symbolic polish of her metalwork in preference to the manipulation of a Kodak, and that her inward joy in the noble craft of cookery displayed itself in the dazzle of the ancillary apparatus. And let us not grovel before the microbe; what matter whether dust rest on a moulding if, the defilement being swiftly and tenderly removed, the eye rest there also and be satisfied.

All honest work is of Art, and Art, like the beneficent potato, puts forth her tender blossom above her nourishing earthy base. Your most matter-of-fact Philistine who clamours for nothing but the practical will be found yet to be concerned as to the set of his tie, the arris of his trouser, the colour of his dog, or some such unpractical affair.

And let it not be objected that these are but the vapourings of a man, an architect, and therefore *ex hypothesi* a domestic dunce; for we are duly authorised to add here the imprimatur of the experienced and accomplished angel of the writer's house.

WAR MEMORIAL OUTSIDE CONSTANTINOPLE.

Modern Ecclesiastical Architecture. 4.—Interior of Latimer Memorial Church, Birmingham

W. H. Bidlake, M.A., F.R.I.B.A., Architect

An interior of much refinement, the style, or, at least, the elements of the composition, being such as those with which, in the sixteenth century, "Old Hugh Latimer" was familiar. The hammerbeam roof is a remarkable feature for a modern church, and the coupled columns by which it is supported have a distinctive effect to which a photographic view cannot do full justice.

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The Development of London*

By G. A. T. MIDDLETON, Past Vice-President, Society of Architects

A LITTLE more than nine years ago it was my privilege to read a paper before this Society, in which I drew attention to the possibility of utilising the present high-level railway, which connects Cannon Street and Charing Cross Stations, as a broad roadway, while substituting a new station on the South of the Thames for those which would be destroyed. As then presented, the scheme was crude and nebulous. Elementary as the proposals then were, however, they attracted much attention and received a considerable measure of support. Now I believe that the time has come, for much has happened in the intervening period to prepare the way.

The engineer who laid out the South-Eastern Railway recognised that the nearest route from the City and the West End of London lay along a chord which cut off the bend which the river takes, and he set out his loop line from Cannon Street and Charing Cross accordingly, crossing the river twice. With efflux of time and the coming of the Underground, this loop has largely lost its value as a railway. But if it were converted into a roadway it would be invaluable. It would be worth the outlay over its purchase and conversion, even if there were no return, if it did no more than provide an alternative East and West traffic route to those already existing along Holborn, Fleet Street, and the Embankment. But it would do a great deal more than this, for by means of easily contrived slope ways on either side, it would open up the whole of the land within the road and the river, and a great deal also to the south of the road —land which at present is covered by mean dwellings of slum character. The heart of London would then find the means of expansion for which it is now panting! The sloped ways southwards would also allow the road to be used by much of the through North and South traffic, which the existing bridges and their approaches are inadequate to carry.

There is another railway bridge over the Thames at Blackfriars belonging to the South-Eastern and Chatham Railway which is approached upon arches at a higher level still, and is connected by curves, very rarely used, and the loop line. The main double track across this bridge is used mostly for through goods traffic, and is of great importance, but it would not be an impossible feat to utilise the curves and to convert the rest of the bridge into another roadway connected with the first, carrying it right through Blackfriars Station and opening into a circus in front of the Central Criminal Court. There would also be a sloped approach from the bottom of Queen Victoria Street, where St. Paul's Station now stands. In this way three new bridges for vehicular and foot traffic would in all be provided across the Thames, each of them wider than any of the existing bridges, without obstructing the river more than at present and at little, if any, structural cost, except for embellishment. South London would be fully opened up, and ample means of both local and through communication established.

In order to recoup the expenditure I suggested in 1910 that not only would the valuable sites released by pulling down Charing Cross, St. Paul's, Blackfriars, Holborn, and Cannon Street Stations become available for sale or lease, but that there would be ample room upon the bridges for shops upon one side, or both sides of the roadway—which, by the way, would have incomparable river views, making them of great value. Further than this, I advocated the purchase of small property on each side of the new high level road, and the creation of parallel low level roads, with shops arising therefrom, with both low and high level frontages, and with storage accommodation in the existing arches under the road. Altogether, I then estimated that some ten miles of new frontages would be created, but now, with the additional approaches shown on the accompanying plan, and with the continuation of Stamford Street as a direct through way to London Bridge, this would more nearly approximate to seventeen or twenty miles. Once the district is opened up, as it would be by the suggested roads, it would pay in every way to replace and to rebuild, with discrimination, the whole disreputable triangle between the Thames, Waterloo Road, and the Borough High Road. More housing would be provided under infinitely better conditions, more offices, more shops, more theatres, and more public buildings; and the monetary profit would be beyond all computation.

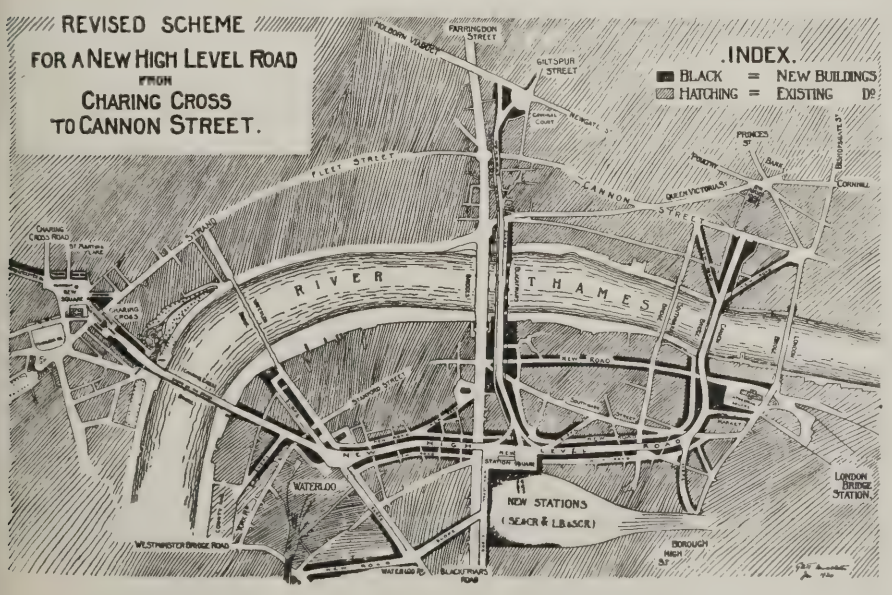
At this stage it may well be asked, What of the railways? The answer to this is the same in essence as it was nine years ago: Replace the five stations already mentioned, at Charing Cross, St. Paul's, Blackfriars, Holborn, and Cannon Street, by a great central terminus where the new high level road is met by its northern branch in Blackfriars Road. Only I should now propose that the main approach to it should be from the east and not from the south, by switching both the South-Eastern and the Brighton Companies' metals off to the south of Guy's Hospital, utilising the present London Bridge Stations for local traffic only. The same great terminus would also pick up the local traffic coming in from the south by the old Dover line. By this centralisation, enormous economy of running and of administration would be achieved, while sufficient accommodation could be reserved to meet the requirements of the new South London for the next hundred years or more.

As thus sketched, the project admits of little modification, for its general lines are determined by the existing railways, the utilisation of which as roadways is of its essence, on account of the enormous structural economy thereby effected.

It is otherwise with the details, every one of which will require much consideration before finality is reached. Charing Cross, alone, has engaged attention for full fifteen years, and only slowly have the salient points of the problem emerged. For instance, it was not till comparatively recently that anyone recognised that the congestion in the Strand could be most easily removed by building a bridge across it. The honour of this suggestion rests conjointly with Sir Aston Webb and Sir Reginald Blomfield, and I have taken the liberty of adopting it, while adapting it to my general scheme and not theirs. It will be noticed that, as compared with other schemes, which have been propounded, I propose to abolish comparatively little property in this district.

The next important point along the High Level Road would be at Waterloo Station; and it is interesting to note that since my original scheme was promulgated this station has been enlarged and so planned as to take full advantage of its adoption, as if the directors anticipate that it will some day be carried out. It may, however, have been accidental, for Waterloo is still difficult of approach from every direction. But with the opening of the High Level Road it would be as easy to reach as any of the other London termini, for it lies on the road and at its level, while new and easily constructed slopes, such as are shown on the plan, from the end of Waterloo Bridge on the north, from the bank of the London County Hall on the south-west, and from Waterloo Road on the south-east, would add to its accessibility. These slopes would also add greatly to the traffic facilities afforded by the High Level Road.

The new terminus of the South-Eastern and Chatham and the London Brighton and South Coast Railways is clearly open



* Substance of a paper read before the Society of Architects on February 12.

to many different treatments. I am suggesting a large high level square as its main frontage, with another high level frontage parallel with Blackfriars Road, to which it would be continued downwards by a sloped way; while a branch sloped way would cross the same road down to Waterloo Road, opposite a new road cut through slum property to Westminster Bridge Road —with the object of securing a direct approach from the west over Westminster Bridge. A sloped way to Southwark Street on the north is also shown, but I would suggest that the district lying at a low level to the south of the river could best be served by a low level booking hall, under that above, while the remaining space beneath the main station could be put to many important uses, providing large waiting and refreshment rooms, cloak and parcels' offices, and means of approach to tube railways, which would soon be connected up to such an important centre.

At the south end of Cannon Bridge, where it is not far from London Bridge, the problem is largely one of levels, and the suggested solution is little more than a sketch, calling for fuller consideration when the necessary data are available. Some unsightly railway bridges would be removed, and the opportunity should certainly be taken to form a square or other open space round Southwark Cathedral, and materially to improve the vegetable market, while at the same time providing two sloped ways for vehicular traffic from the High Level Road—one to the Borough High Street on the south, and the other to London Bridge itself. Further than this, direct east and west communication at the low level should be opened up, past the Cathedral, with the suggested extension eastwards of Stamford Street.

At the north end of Cannon Bridge the main central approach should be supplemented by others from the north-east and north-west respectively. The direct approach from the north, as indicated on my plan, ends abruptly in Cannon Street Station Yard, while only a little distance further north is the most congested point in all London, the Bank crossing, crying aloud for relief; and it is questionable whether something drastic would not sooner or later have to be done here. I mean, that it may well become necessary to pull down the Mansion House and cut a clear way through. A new site for an enlarged Mansion House could be found where Cannon Street Hotel stands. Cannon Bridge, like the others, would have houses or shops on it beside the roadway.

The direct northern approach to the new terminus, over the present railway bridge at Blackfriars, part of the great width of which would still have to be reserved for railway metals as already mentioned, would be mainly valuable in collecting southward and disseminating northward traffic by way of Gray's Inn Road and Holborn in the one direction, and by Giltspur Street in another—possibly widened and replanned, though this is not indicated. A clear way round to King's Cross and Euston, even, would not be a difficult thing to evolve.

The one person to act is the Minister of Transport. The means to that end which he could most efficiently and expeditiously employ would be a Royal Commission, provided with definite instructions and ample means for the preparation of complete and detailed plans and estimates first, and subsequently instructed to report as to financial prospects and as to the means to be eventually adopted for bringing the scheme to fruition.

Sooner or later the work must be done. If done now, it can be done as a whole, and economically. If it be deferred it will still be done, but little by little, with many mistakes and constant adjustments and infinitely greater cost and much more worry. The economy is to do it once and do it well. To niggle with it, first building an unnecessary St. Paul's Bridge, and then dealing with Charing Cross as if nothing else mattered, is to incur loss all round and all the time.

First Aid to Architects in House-Painting Difficulties

By ARTHUR SEYMOUR JENNINGS, F.I.B.D.

IN present circumstances the cost of all painters' work is necessarily very high. About double pre-war prices may be taken as a fair average, but for the best work 125 per cent. to 150 per cent. increase is not too much to allow. It is not, however, mainly a question of price which stands in the way of getting work executed in these days; the chief difficulty is rather that of getting sufficient labour and materials in sufficient quantity to do the work at all. The present stock of white-lead is very short indeed; very few decorators can get hold of even "enough to go on with." To make the conditions worse, zinc oxide (which forms an excellent substitute for white-lead) is also scarce, chiefly owing to an idiotic regulation restricting the importation to 50 per cent. of the amount imported in 1914. This restriction is said to be enforced in order to encourage home industries. As a matter of fact, nine-tenths of the zinc oxide used is made abroad, and the total quantity produced in this country does not exceed from 6,000 to 10,000 tons a year; while the consumption is estimated at 25,000 tons. The scarcity of linseed oil can be realised when it is said that a personal friend of the writer's was recently offered 20s. a gallon for a barrel of it by a firm who were faced with the fact that they would have to come to a stop unless they could get at least a small quantity to keep the work going.

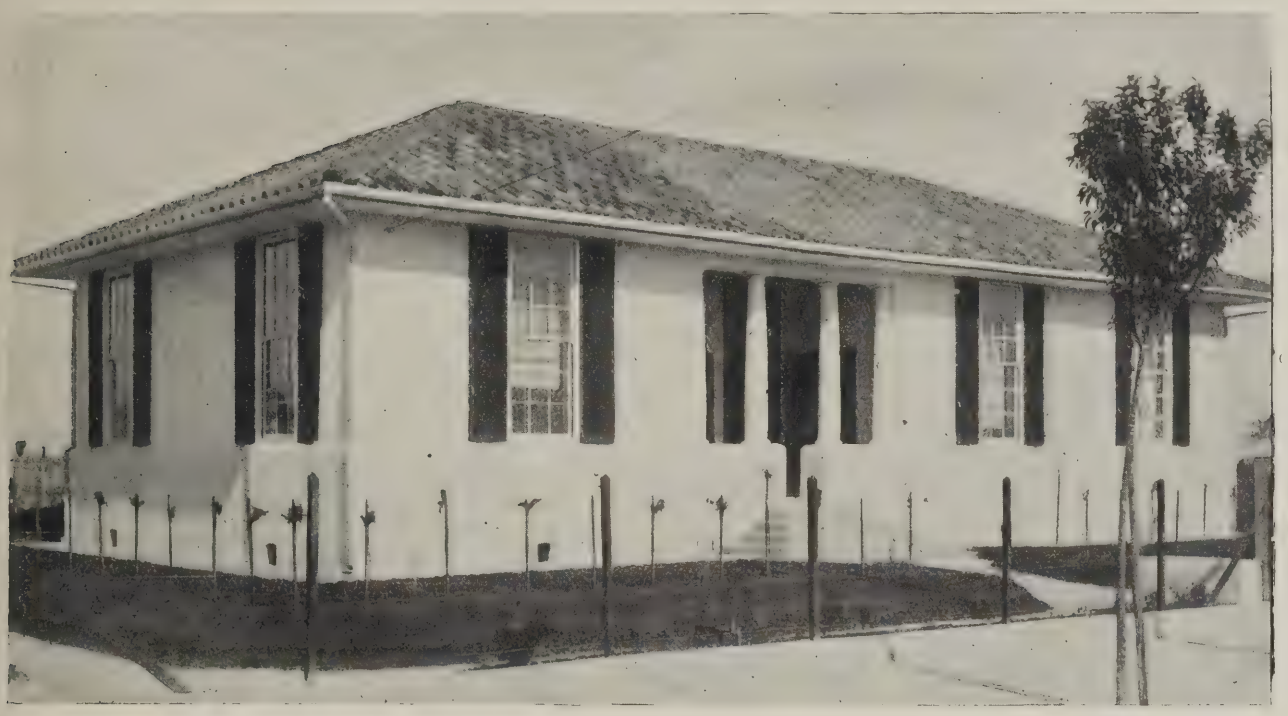
The labour market presents still further difficulties. No master painter can get one-half of the journeymen he could employ for full-time work, and many of those he does get are, as in the circumstances might be expected, very inferior workmen, slow, and in other ways more or less incompetent. Under such adverse conditions the necessity for economising in every direction possible is imperative. Economy must be effected, however, not by using inferior materials (which is always a fatal mistake), but by employing ready-prepared materials which will keep down the charge for labour, and also by using others which either cost less or will last longer than the ordinary goods. Obviously the old clauses in specifications which call for the use of white-lead, linseed oil and turpentine, must be revised to meet present conditions.

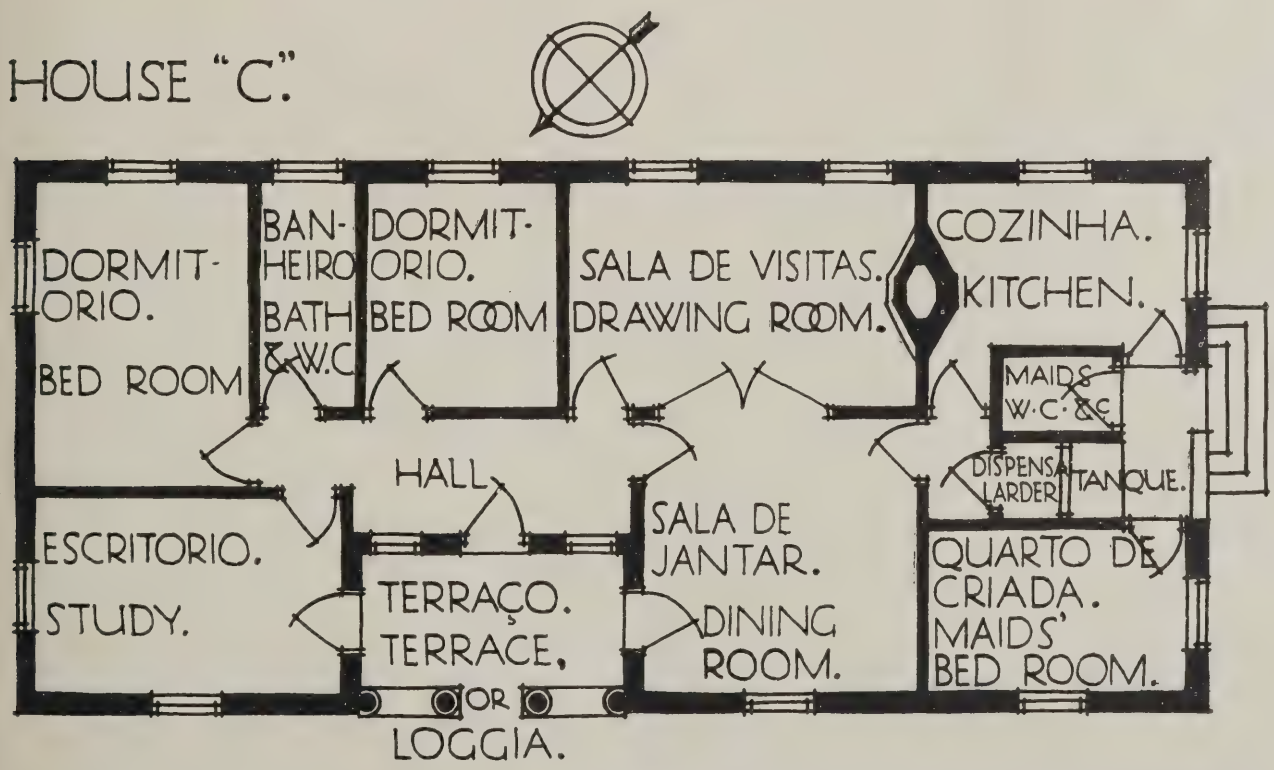
When economy is of urgent importance and there is a considerable amount of woodwork to be protected, I should strongly advocate the use, in substitution for oil-paint, of one of the familiar coal-tar stains. These stains are unaffected by light; they possess the property of penetrating to a considerable distance into wood, and they not only preserve it from decay but also free it from attacks by insects. Such stains are made in various dull colours, such as red, green, etc., and, if desired, the surface may be varnished, although this is not by any means necessary. The cost of such stains, including their application, is probably about one-half that of ordinary oil paint. Hitherto their use has been to some extent restricted to half-timbered houses and work of a like character, but there is no reason at all why they should not be used for all ordinary woodwork unless the wood is of a very inferior quality and has many knots. The stain does not, of course, hide the grain of the wood, and this is an artistic gain. Quite a charming effect can be produced by using stain on the doors, windows, etc., and covering the frames with white enamel by way of contrast. These stains can be applied by unskilled labour.

Economy calls not infrequently for the use of a wash which may be used on outside work instead of oil paint, particularly on stucco and cement fronts. It can be expected that such a wash will last as long as oil paint, particularly if one uses a special material which possesses water-resisting properties, but this costs 25s. a gallon. The best wash known to the writer, and one which I have often used and recommended, is made in the following manner: Ten parts of first-class Portland cement are mixed with one part of plaster-of-Paris and one part of thoroughly slaked lime. If any colour is required, the lime or the plaster, or even both, may be omitted, and ochre, Indian red, venetian red, or any earth colour, may be used instead. A series of buffs and light shades may thus be obtained without difficulty. The powder having been mixed, one part —that is, one-tenth the quantity by weight of the Portland cement—of concentrated glue is melted with sufficient water to bring the whole mass to a cream-like consistency. A thorough mixing is necessary, and the wash should be strained before it is applied. It will be understood that the active ingredients of this wash are the Portland cement and the glue. In applying the wash, it is advisable to choose a damp day in preference to a very dry one, because it is quite essential that the Portland cement shall have plenty of moisture to enable it to set hard. If it is applied to a surface which the sun reaches, the moisture may evaporate before the cement has time to set.

Current Architecture. 10.—House at San Paulo, Brazil

Barry Parker, F.R.I.B.A., Architect





San Paulo being south of the equator, the cool side of the house is the south side, and, wherever possible, the kitchen should occupy the south-east angle of the building. In designing, for the guidance and at the request of the municipal authority of San Paulo, a series of houses of which this is one, Mr. Barry Parker resolved to carry on the old Portuguese traditions. In Brazil the one-story house is the rule. Wide eaves were adopted to cast a cooling shadow over the house when, at mid-day, the sun is at an almost perpendicular height overhead.

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Construction. 6.—Retaining Walls and Foundation for Selfridge's New Building

A GREAT deal of interest is being taken in the extensions which are being made on most efficient and up-to-date methods to the premises of Messrs. Selfridge's, of Oxford Street, London. The illustrations show the excavations and reinforced concrete retaining walls that have been carried out on a portion of the site, which has been cleared by the demolition of houses fronting Orchard Street and Somerset Street. The work was begun on September 28. Along the two sides of the site bounded by the streets, a trench, which varied in depth from 45 ft. to 75 ft., was cut. The retaining wall along these two frontages was then constructed in a special form of reinforced concrete.

In Somerset Street the excavating commenced prior to the demolition of the existing buildings, and a trench 10 ft. wide, the inner face of which was cut as near as possible to the foundations of the existing houses. The toe of the wall measures nearly 30 ft., and necessitated considerable undercutting, which was done in alternate sections of about 7 ft. lengths. The precise division of the alternate bay for excavating the toe is governed by the position of the struts, and these latter are determined by the shores, which come against the lateral walls of the old buildings.

In the excavation of the trench against Orchard Street it was possible to dig to the full width of the toe, so that the only undercutting necessary was a small amount for the heel of the wall. By building the reinforced-concrete retaining wall in a trench in this manner it was possible to clear the whole of the block excavations from the site without the inconvenience of the usual raking shores. If the timbering had been carried out in the usual way with poling-boards, walling-pieces and struts, it would not have been possible to insert these rods in their proper positions. Packing pieces were therefore placed between the poling-boards and the walling-pieces, forming a comb through which the rod could be inserted.

Upon the completion of the retaining wall the main excavations were commenced, and the most potent factor in the removal of the spoil has been a ¾ yard Erie revolving shovel, which is capable of removing from 50 to 60 cubic yards per hour. The grab, having excavated its load, discharges it into a tip wagon mounted on flanged wheels, running on a light railway. The tip wagon is wheeled off by hand, and run on to one of two specially erected electric lifts set in a timber framing. The lift hoists the tip-wagon to a platform at a level of 9 ft. above the roadway in Somerset Street. The platform is also equipped with rails, with turn-tables at intervals. The tip wagon, on its wheeled underframe, is then run across the platform, and its load tipped into bins which are built into the framing above the roadway, the empty tip-wagon being returned to the site by the lift for its next load.

The bins into which the spoil is tipped are built at a sufficient height above the road to admit of a cart or lorry being backed under them. These vehicles are loaded automatically through a shoot or hopper, so that the whole operation is carried out with a minimum of man-handling and the greatest economy in time. Moreover, as the bins have a considerable storage capacity, the carts or lorries are never kept waiting for a load.

In the construction of the retaining wall the concrete, a mixture of four to one, was mixed by mechanical mixers, which were conveniently disposed about the works. To ensure the waterproofing qualities of the walls, "Anti-Hydro," manufactured by the Adamite Co., Ltd., of Regent House, was incorporated with the mixture, in the proportion of one gallon of "Anti-Hydro" to every cubic yard of cement. Before deciding to use "Anti-Hydro" for the construction of the retaining wall, Mr. F. D. Huntington investigated the uses to which "Anti-Hydro" had been put in America. A wall 600 ft. long and from 75 ft. to 45 ft. in depth was built with "Anti-Hydro," and a saving effected of roughly 2,000 yards of excavation. In addition, there was a considerable saving in the amount of timber required in shoring up the trench. "Anti-Hydro" was subjected to an unusual strain during the

PART SITE OF SELFRIDGE'S NEW BUILDING, OXFORD STREET, SHOWING REINFORCED CONCRETE RETAINING WALLS.

progress of the work by the bursting of a water main in the immediate vicinity of the wall. In spite of the burst main, "Anti-Hydro" kept out the water. The top of the retaining wall is about 4 ft. below the level of the pavement. The space between the retaining wall and the main structure itself is used to increase the floor area of the basement and sub-basement, the basement being lighted with pavement lights. Thus the retaining wall receives additional support at these levels from the steel work of the floors.

Work upon the individual stanchion foundations is being commenced as soon as the ground has been excavated to the general level required for the sub-basement floor. Some of these have already been started, and their size and depth vary, according to the loads which they are required to carry. The superficial areas of the stanchion foundations, which are resting on the orthodox London clay, vary from 3 ft. 9 in. by 3 ft. 9 in. to 15 ft. by 15 ft., and the depth from 3 ft. to 6 ft. The foundations are all of reinforced concrete, no particular system being adopted. On most stanchion foundations there is a cast-iron base, from which the steel work rises, bedded in concrete where it is below the sub-basement level. In some places, however, such as above the toe of the wall, it has been necessary to use steel grillages instead of the cast-iron base.

When completed, the new and existing premises of Messrs. Selfridge's will occupy an island site, bounded by Somerset Street, Oxford Street, Duke Street, and Orchard Street. On one portion of the area stands the completed portion of the building. Owing to the fact that Messrs. Selfridge are unable to vacate the present old buildings which they now occupy in Oxford Street until they possess premises into which to move, the entire site has been divided into four parts, each of which is to be undertaken consecutively.

The work now being carried out will be completed to the first floor level. This floor will act as a temporary roof to the ground floor, which can then be occupied, thus releasing more houses for demolition. The clearing of this area and erection to first floor level will constitute the second operation. Simultaneously, work on the superstructure of the first portion will be proceeded with. This process will be repeated over the four sections. After the main building has been completed in this way, there will remain the erection of the 300 ft. tower. The new premises are to have three underground floors, to be known as basement, sub-basement, and sub-sub-basement.

The hoarding round the site has been provided with an opening at either end, giving access to the public, and a special bridge or gallery has been erected from which a full view of the works may be obtained. The associate architects for the new building are Messrs. Graham, Anderson, Probst and White, and Sir John Burnet, R.S.A., LL.D., the contractors being Messrs. F. D. Huntington, Ltd., of Hanover Square, London.

It may be recalled that the existing Selfridge building was completed in 1909 from the designs of Mr. R. Frank Atkinson, F.R.I.B.A. The building gave a new scale to Oxford Street, and has exercised a strong influence over the design of many big structures that have since been erected in the metropolis—witness the more general employment of the colonnade motif, with the order embracing the total height of the elevation above first-floor level. The designs for the new block are not yet available for reproduction, but we hope to have an opportunity of illustrating them in due course.

New Appeal Building Tribunal

The Ministry of Health announce: Under the Housing Act which was passed at the end of last Session, local authorities are given powers for prohibiting building operations which interfere with the provision of dwelling accommodation, but any person aggrieved by an order of the local authority may appeal to a tribunal appointed by the Minister of Health.

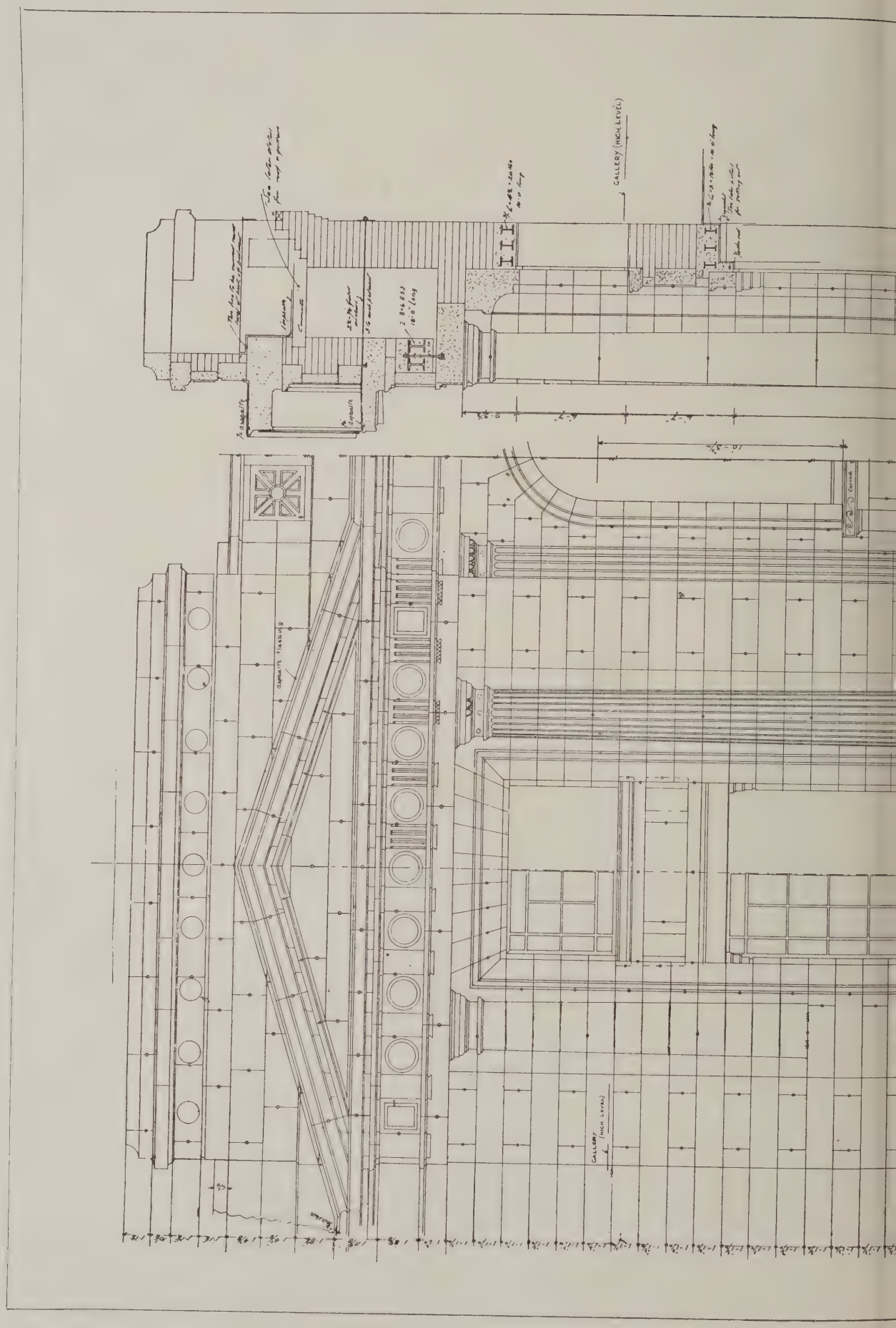
The chairman of this tribunal will be Mr. E. B. Charles, C.B., K.C., and the following gentlemen have accepted Dr. Addison's invitation to serve as members: Sir J. S. Harmood-Banner, M.P., Mr. James Storrs, J.P., F.I.O.B., Chairman of the Industrial Council for the Building Industry Councillor R. Wilson, J.P., Chairman of the Resettlement Committee of the Industrial Council, and Sir John Wormald, K.B.E. Mr. Storrs and Councillor Wilson were nominated by the Industrial Council for the Building Industry, at Dr. Addison's request, as representatives of employers and employees respectively.

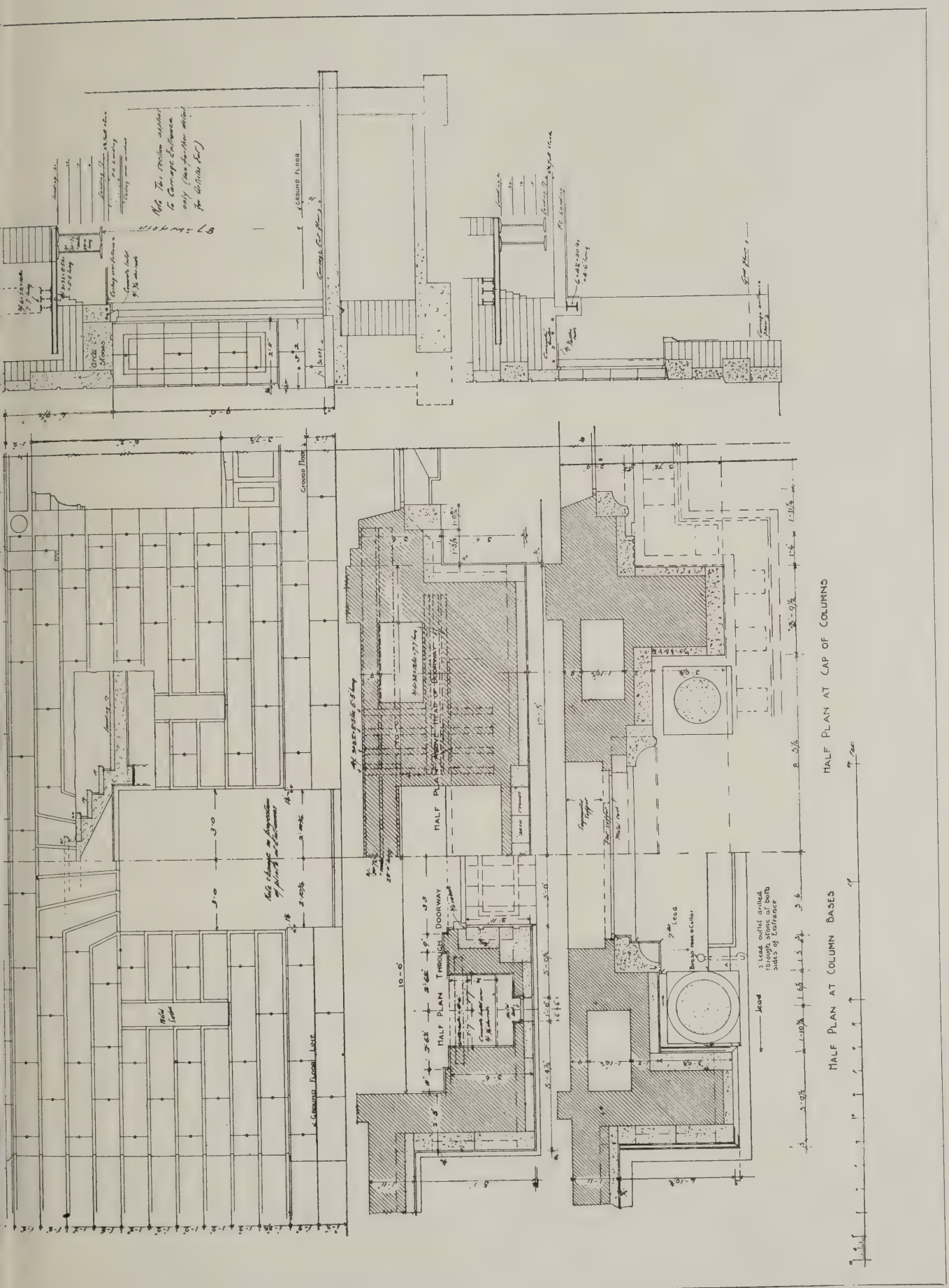
The tribunal will sit at the offices of the Ministry of Health, and meetings will be held in the afternoons after 4 p.m. Communications should be addressed to the Clerk of the Appeal Tribunal (Regulation of Building), Ministry of Health, Whitehall, S.W.1. The Ministry of Health point out that before entering into contracts, or beginning to build, promoters of new construction should communicate with their local authority. Prospective building owners will thus be prevented from locking up capital in schemes that come within the official embargo.

SITE OF SELFRIDGE'S NEW BUILDING, OXFORD STREET: NEAR VIEW OF REINFORCED CONCRETE RETAINING WALLS.

Architects' Working Drawings. 5.—Wallasey Town Hall, Cheshire: Details of End Feature, Brighton Street Elevation

Briggs, Wolstenholme, and Thornely, FF.R.I.B.A., Architects





The above drawing shows details of one of the end features to the Brighton Street, or principal entrance, frontage of Wallasey's New Town Hall, of which a number of drawings and photographs have already appeared in this Journal. For a full description of the work readers are referred to our special issue dated December 31, 1919. The building is faced with white Sancliffe stone from Derbyshire.

The R.I.B.A. Housing Conference

THE following is a report of the last day's proceedings of the R.I.B.A. Housing Conference, held at the Ideal Home Exhibition at Olympia. A report of the first two days of the conference, which was opened by Dr. C. Addison, M.P., Minister of Health, with Sir Reginald Blomfield, R.A., in the chair, was published in our last issue:

Mr. J. E. Drower, F.S.I., opened the third day's conference with a paper on "Difficulties of Transport and Materials." He described the causes of the present shortage of building materials, and considered to what extent and in what period the supply would increase, and what new methods could be relied upon to augment present inadequate quantities. The shortage was caused, he said, by the necessity for cutting down various industries during the war. Production of building material was reduced to a bare minimum during hostilities—to little more than the amount required for national purposes. The end of war found stocks almost exhausted; stone and slate quarrying almost at a standstill, and brickyards out of commission. There was acute financial difficulty in re-starting the industries. The Government distributed orders in order to get concerns going again, and the War Office was asked to release brickmakers. Nevertheless, at the beginning of last year the output of bricks was only 550 millions per annum; it has since risen to 2,500 millions, with a slight tendency upward, and this equals the average output before the war. Assuming that the bulk of the new houses are of brick, this output is only enough for 110,000, or about a half of those required this year. The maximum pre-war production capacity of the brickyards was 4,000 millions, but even if this figure were reached all the bricks could not be allocated to housing without serious handicap to industrial and other works. Production will increase towards this 4,000 millions figure, owing to the adoption of modified Hoffman or analagous kilns, but the requirements will soon be for 2,500 millions for various necessary services, and between 6,000 and 7,000 millions for housing. This huge number could not be produced on economic lines; great sums would be required to equip the yards to meet present urgent housing needs, but this market would eventually fail; the cost of equipping the yards for this special housing effort could not be borne by the yards, but would have to be added to the cost of the bricks.

The way out of the difficulty is to utilise alternatives to bricks—though the latter will remain the most suitable material. Among alternatives, the country still abounds in building stone, only recently ousted in many districts in favour of bricks. This, and slate rubble, would be invaluable for foundations, if scientifically used. Timber, of course, is another alternative, but stocks are low and prices high; a considerable quantity is necessary even in the brick-built houses, and the tonnage available for imports is inadequate. In a normal pre-war year (1913) about 1,360,000 standards of soft woods were imported, in all trades; of this quantity only 80 or 90 thousand standards were for housing, and it would now strain our resources to take a far greater percentage of imports for housing.

The next alternative considered was cement; it is now so largely used in brick houses that 1,450,000 tons would be required to erect 200,000 brick-built houses. Production for 1911-2-3 averaged 3,000,000 tons, of which 716,000 tons were exported leaving 2,300,000 for home consumption. Production has not yet returned to pre-war quantity, and there is a great demand for it abroad. Thus, with a shortage for normal requirements, it is hard to see how the demand for purely concrete building can be met. Cement might be economised by reducing its present lavish use in many ways; and its use for walling might be prohibited in those parts of the country where stone and bricks are locally available. Engineers and architects could assist by using lime where possible, and restricting the use of cement to where it is essential; many great buildings have been erected without it. But, even with the greatest economies the cement required for 200,000 houses will be very great, and something more than economy would be necessary.

For roof coverings tiles and slate chiefly are required, and the whole present resources of the country could not produce two-thirds of the quantities required. This industry, too, sank very low during the war, and has not yet recovered. It is necessary, therefore, to consider alternatives to tiles and slates.

The next great necessity for the housing schemes is light-castings, and fortunately this industry is in a position to meet the demands upon it. One other item of which there is a shortage is glass, due to the cessation of imports; but with the new factories being established in England the quantity produced here should soon increase considerably.

Mr. Drower dealt with the problem of fixing prices, and suggested that some joint method of control be designed, entrusted to the trades themselves, to regulate prices and fix a fair margin of profit, etc. Transport, too, urgently needs to be perfected and speeded-up to deliver materials immediately they are available.

The second paper at the morning's conference was by Mr. W. A. Harvey, F.R.I.B.A., with Professor Adshead in the chair, the subject being "Economies in Planning and in the Employment of New Materials."

To-day, said the lecturer, we are almost a nation of housing experts, and it is important that the orgy of amateur energy be guided into producing the vast number of houses required. The great point to insist upon is that only by careful standardisation can the enormous and urgent amount of necessary building be speedily accomplished; and there is nothing in the principle of standardisation incompatible with beauty and comeliness. On the assumption that five hundred houses are to be built on a site, the problem is to erect a proportion of types A, B, and B4, with careful regard to the locality, its special conditions, and possible future development plans must be prepared providing for north and south aspects, the end and intermediate houses of each type, allowing for necessary variants such as bays, gables, porches, etc. This involves a dozen different standardised plans, and standardisation is the key to the problem, enabling the work to be done well and at a minimum cost. The cottages will depend for attraction not so much upon craftsmanship as upon meeting the needs of their occupiers, and on excellence of design. This will avoid an ugly display of foibles and idiosyncracies, and result in a pleasing and thoughtfully-composed collection of groups and similar units, each contributing to a composite whole, restful and attractive. Standardisation seeks to achieve beauty, not ugliness; an article produced from a pattern need not be tawdry nor commonplace. On the other hand, because a house is erected at the lowest possible cost it is not necessarily the most economical. On such a basis there would only be jerry-building; the true test of economy is the lasting qualities of the building. It is necessary to include the probable cost of repairs during a period of years, and the worth of the cottage at the end of the period. Building at too cheap a cost is to solve one problem by creating another. Present building costs are too high to run such risks. Yet in the necessity to build quickly, cheaply, and by standardisation, the rival claims of various methods and materials should receive close and expert investigation, and be subjected to practical tests. Even though building cannot await the result of long technical enquiries a great deal can be done. Experimental data should be obtained under conditions that render comparisons reliable and instructive, and for this reason experimental houses should be erected by the Government, doing on a large scale what was done at Bourneville. At that place £7,000 was provided for experimental purposes, for investigation to ascertain the cheapest and most suitable medium for the district.

Greatest economy is to be effected in the design of houses. Roofs must be simple, and without unnecessary complications. Chimneys should be grouped together, diminisning trimmings and flashings, which are always costly items. Generally, windows should run uninterruptedly, and not allowed to complicate the spouting and roofing by breaking through the roof. Compactness and regularity should be aimed at, the wall lines set at right angles, and be as long and unbroken as possible. In all features standardisation will help economy—in windows, doors, stairs, skirtings, etc. All planning should be to avoid waste, without sacrificing amenities.

The broad-fronted house will be the type most favoured in future designs, and it is both comely and convenient. It affords superior lighting and ventilation, especially in living and work rooms, staircase, and larder. Greater width allows considerable latitude of choice in internal planning, with facilities for more conveniently arranged rooms, and special regard to the right aspect. The living room and one bedroom can be through rooms with windows at each end, thus making bright, cheerful, easily-ventilated rooms, suitable for any aspect. The relative positions of windows and doors requires careful consideration, as the arrangement and shape may add considerably to their usefulness. Opening doors and passage should be kept away from fireplaces and windows; the comfort of a living room depends on having as few doors as possible, kept to one wall or corner.

The next important problem, said Mr. Harvey, was the position and fitting of the

bathroom; it ought to be on the first floor, with hot water supply from a boiler at the back of the range or fireplace. By the adoption of an up-to-date general hot water system an economy can be effected of £10 or £15 per house. From the boiler it would be possible to take a flow and return pipe into a drying closet in the recess adjoining the kitchen fire.

The old-fashioned kitchen range, too, must go; it is wasteful in consumption and in labour, and gives but an indifferent result. If the ideal range has not yet been produced, still great steps have been taken towards it.

Mr. Harvey proceeded to consider the relative merits of various materials; he said that during the last five years he had built concrete houses of reinforced slabs and hollow blocks. Both methods had proved satisfactory as to structure and the comfort and soundness of the house, but the cost had not been appreciably less than brick, even where the aggregate was readily available. As for wood, Mr. Harvey thought that it was unsuitable for urban areas, and the cost of maintenance would be considerable. Assuming the cost of the wooden houses to be £30 less, the so-called economy loses its attractiveness and force when set beside the comparatively short life of the building, and the cost of maintenance is excessive. The requirements of health and sanitation would involve also additional cost.

Pisé de terre, the lecturer said, opens up possibilities of blending some of the best traditions of the past with the results of modern experience. In the hands of sympathetic men with an affectionate regard for the amenities of the picturesque old English villages, pisé de terre might be used to improve upon the work of other days, and whilst producing tastefulness and charm prove at the same time a practical method of solving the housing question in the countryside. It is, moreover, clear on the evidence that in many localities the materials are readily available for the erection of such premises. Stability is assured with suitable local materials, and the high cost of carriage is saved.

In conclusion, Mr. Harvey emphasised the necessity for standardisation being kept to a high standard, since form bad in its conception becomes unsupportable when continually repeated. Coarse sash bars, bizarre fanlights, and toyshop porches all combine to prostrate the spirit, when standardisation is of a bad model, although it costs no more to have good ones. The standardisation of fine models and high quality is the surest method both to build speedily and with economy to-day, and to prevent the houses now erected from lapsing into slums.

Scottish Housing Grants

THE Scottish Board of Health have issued a memorandum with regard to the grants, under the Housing (Additional Powers) Act, 1919, and out of moneys provided by Parliament to any persons or bodies of persons constructing houses. The grants are to be made subject, inter alia, to the houses complying with the conditions prescribed by the Scottish Board of Health, and to their being in material accordance with the conditions as to the number of houses per acre and the standards of structural stability and sanitation approved by the Board in the case of a scheme submitted by a local authority.

The terms of the schemes to be made are under consideration, but in view of the numerous requests for information as to the type of houses to be provided, the nature of the accommodation to be required, etc., the Board have thought it desirable to issue at once for the general guidance of persons proposing to build, conditions as to accommodation, structure, etc., which will have to be complied with. Persons proposing to build will thus be in a position to proceed with the preparation of their plans. The houses must be certified by the local authority to have been completed in a proper and workmanlike manner. In the event of the local authority refusing or neglecting to give this certificate, any person aggrieved may appeal to the Board. The construction of the houses must be begun within twelve months from December 23, 1919, and completed within that period. The Board, however, have power to allow an extension of this period for another four months, but the amount of subsidy will be reduced proportionately in respect of any house not completed within the twelve months unless the Board are satisfied that the delay in completing the house within the said period of twelve months was due to circumstances over which the person constructing the house had no control. The expression "building regulations" is by the Housing, Town Planning, etc. (Scotland), Act, 1919, defined to mean "any statutory enactments, by-laws, rules, and regulations, or other provisions under whatever authority made, relating to the construction of new buildings and the laying-out of and construction of new streets or roads."

The amount of subsidy under the proposed schemes will vary according to the size of house provided, and the Board are in communication with the Treasury as to the exact amount of subsidy to be given. When this has been determined the Board will issue a further memorandum on the subject, but it is anticipated that a subsidy of £160 will be given in respect of a house containing living-room, parlour, and three or four bedrooms, and comprising not less than 1,100 ft. super. of floor area. For a house containing living-room and three bedrooms, or living-room, parlour, and two bedrooms, and comprising not less than 900 ft. super. of floor area, the subsidy will probably be £140; while for a house containing living-room and two bedrooms, and comprising not less than 700 ft. super. of floor area, the subsidy will probably be £130. No grant will, however, be made for houses which have a superficial floor area in excess of 1,400 ft. or less than 700 ft. The floor areas will be the total of all floor areas measured within the external or containing walls of the house. The above amounts will be given only for houses the life of which will be at least sixty years. The amount of grant will be diminished in the case of houses with a shorter life.

The conditions prescribed by the Scottish Board of Health in terms of Section 1 (2) (a) of the Housing (Additional Powers) Act, 1919, regarding grants to persons constructing houses, are as follows:

Houses may be of (a) the single or two-storey cottage type built singly or in pairs or in blocks of not more than eight houses per block; (b) the flatted type built not more than four houses per block, each house to have an independent entrance; (c) the tenement type not exceeding three storeys in height (i.e., the ground floor and two upper floors), not more than six houses to enter off one common stair or passage, and not more than eighteen houses to be included in a block.

The density of houses shall not, except with the approval of the Board, exceed (a) in the case of cottage houses, at the rate of twelve per gross acre; (b) in the case of flatted houses, at the rate of sixteen per gross acre; (c) in the case of tenement houses, at the rate of twenty-four per gross acre. In calculating the density of houses on the site, there shall be taken into account the area of streets (including half the area of any boundary street), the area of open spaces or other ground not to be built upon, and the area reserved for other purposes than the erection of houses.

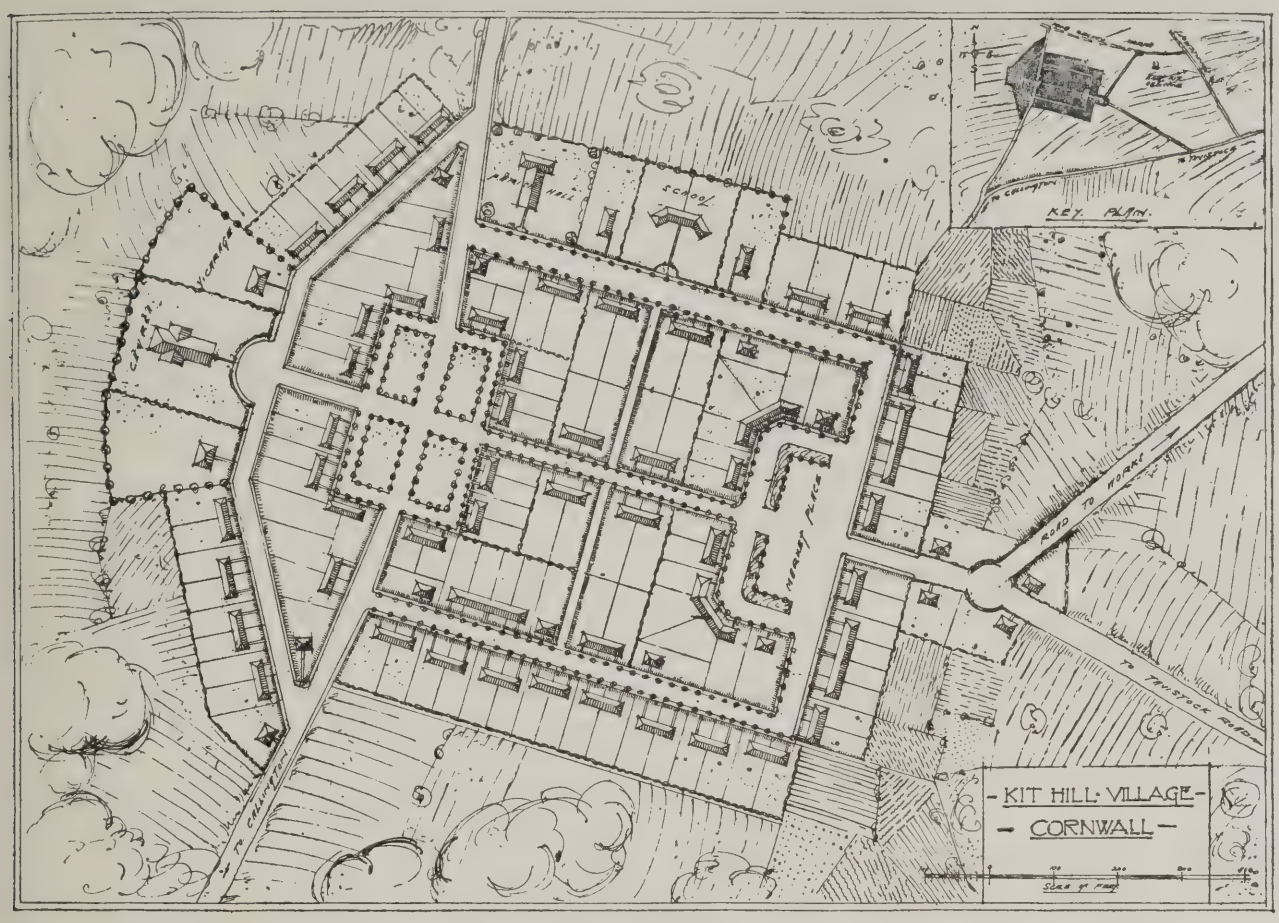
Every house shall have at least three apartments, i.e., a living-room and two bedrooms, and no house shall have more than four bedrooms in addition to a living-room and parlour. No bed recesses shall be provided in any of the apartments. In addition to the above apartments, every house shall be provided with a scullery; a larder, one of the sides of which shall be on an external wall, and with ventilation provided in such external wall; a coal store; a proper supply of wholesome water in the house or, if that is not reasonably practicable, immediately outside the house, or as near thereto as is reasonably practicable; a wash-tub and copper or other facilities to the satisfaction of the local authority for washing clothes. (Note.—These may be provided in the scullery.) Facilities for drying clothes either by the provision of a pulley in the scullery or otherwise to the satisfaction of the local authority; adequate press accommodation in the living-room and bedrooms; a water-closet for the exclusive use of the inmates of the house. Where water and drainage are not available, a sufficient earth-closet shall be provided in a suitable position; a bath in all cases where adequate water and drainage facilities are available; an ashpit in places where there is no systematic removal of refuse.

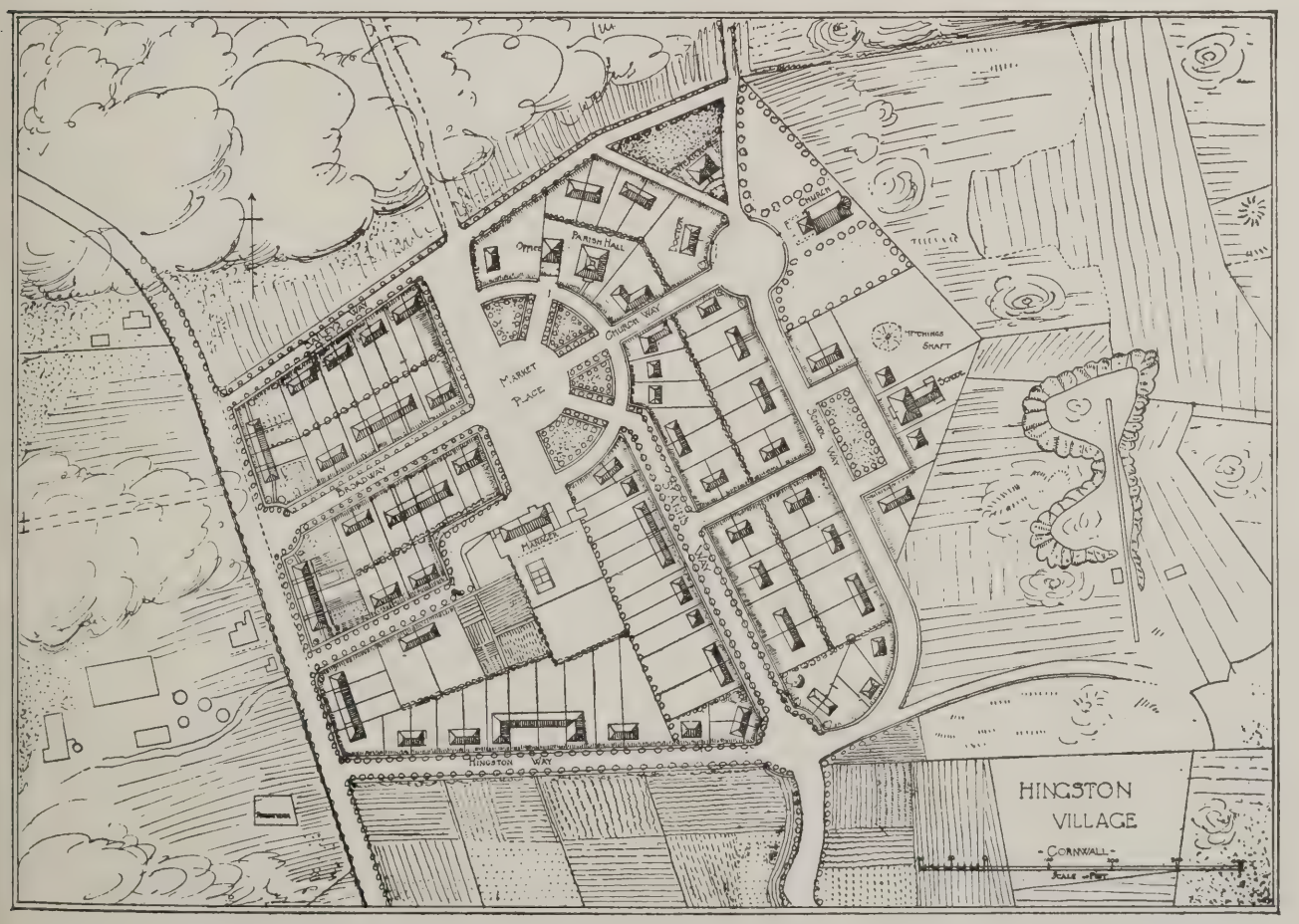
The minimum floor areas of the apartments shall be as follows: Living-room, 180 sq. ft.; parlour, 120 sq. ft.; first bedroom, 150 sq. ft.; second bedroom, 110 sq. ft.; third bedroom, 80 sq. ft.; fourth bedroom, 80 sq. ft.; scullery, 70 sq. ft. The height of ceilings shall not be less than in the case of single storey cottages, 8t. 6 in.; in the case of two-storey cottages, 8 ft. 6 in. on the ground floor, and 8 ft. on the upper floor; where, however, the upper floor has camp ceilings, the minimum height shall be 8 ft., and at least two-thirds of each apartment on the upper floor shall have the full height of 8 ft. In the case of flatted houses, 8 ft. 6 in. on each floor; in the case of tenement houses, 9 ft. on the ground floor, and 8 ft. 6 in. on each of the upper floors.

The sites of houses and the lay-out plans shall be approved by the local authority of the district in which the houses are to be erected. The plans of all houses shall be approved by the local authority (or Dean of Guild Court as the case may be) of the district in which the houses are to be erected, and, except in so far as the conditions herein prescribed are inconsistent with the provisions of any building regulations as defined in the Housing, Town Planning, etc. (Scotland), Act, 1919, the

Town Planning. 1.—Lay-out of Mining Villages in Cornwall

Richardson and Gill, FF.R.I.B.A., Architects.





To lay out a scheme for a village or a town is to employ geometry in its most natural and its most fascinating application (geometry = earth-measurement), but without the finality that pure science exacts. The two examples of layouts here exhibited are useful as showing how great a diversity of treatment is possible with two sites that do not vary greatly in extent or shape.

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lans shall comply with those regulations, rovided that in cases where the Board ave approved plans and specifications in spect of a housing scheme to which State sistance is given, the local authority (or ean of Guild Court as the case may be) the district in which the houses under e scheme will be situated shall not refuse give consent to the plans if the plans volve departures from the said regulaons only to the like extent as in the case the plans of the housing scheme proved by the Board.

Houses may be built in stone, brick, or ncrete, and the standards of construcon shall at least be those set forth in the eneral Specification issued by the Board ted December 15, 1919. Where it is proosed to build in other materials, particurs thereof shall first be submitted to the oard by the local authority (or Dean of uild Court as the case may be) for proval. Entry to buildings shall be anted at all reasonable times during the nstruction of the building to any authoised officer of the Board or of the local thority, and the person building or his presentative shall furnish all information sired by these officers.

.I.B.A. Address to the King

The Address from the R.I.B.A. conatulating the King on the successful nclusion of peace was sent to His ajesty through the Home Secretary imediately after the Ratification. The folwing are the terms of the Address:

e Humble and Loyal Address of the Royal Institute of British Architects to His Most Excellent Majesty King George the Fifth.

ay it Please Your Majesty:

WE your dutiful subjects the President d Council on behalf of the Royal Insite of British Architects and of the Archctural Societies of the United Kingdom d the British Dominions beyond the sea alliance therewith

Beg leave to render Homage to our ost Gracious Patron on the occasion of e Termination of the Great War

And to tender our humble and respect l congratulations to your Majesty on e joyful and triumphant issue thereof in e conclusion of a Victorious Peace.

Knowing well that the burdens our prossion endured during the progress of stilities were necessary to the fulfilment that happy liberty we enjoy under Your ajesty's beneficent rule we count them naught and crave permission to renew r expression of devoted loyalty to Your ajesty's sacred person.

WE pray that Almighty God may grant Your Majesty a long prosperous and aceful reign.

And that He may inspire us Your ajesty's loving servants in our work for e greater Honour and Glory of Your ajesty our Patron whom God preserve.

Given under our hands and seal this thirty-first day of December One thousand nine hundred and nineteen.

JOHN W. SIMPSON, President.
WALTER CAVE
E. GUY DAWBER
ALFRED W. S. CROSS
S. D. ADSHEAD
} Vice-Presidents.
ARTHUR KEEN, Hon. Secretary.

A message has been received from the ome Office stating that the Address was ly laid before the King and that his ajesty was pleased to receive it very aciously.

Correspondence

Concise Costing for Housing

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of January 21 you published a letter from Mr. R. S. Sutherland, who states that during an experience of a system of costing in a contractor's office, installed by one of the most eminent builder's managers in this country, he found that it was impossible for the labour costs to be accurately allocated by the foremen, and, further, with regard to the amount of work done by bricklayers that the average number of bricks laid per day varied very considerably; finally winding up with the statement that "the present system of quantities is very much below what the 'British' standard should be."

Dealing with these in their order. The time spent in dissecting item by item the surveyor's bills of quantities to arrive at the *relative estimated value* of materials and labour is not necessary with practical and scientific bills of quantities. Therefore this time, and to a large extent that devoted in measuring-up the work on completion, would be saved, and could be devoted to instructing the foremen, and in inspecting and checking their costs. Of what need is there for an additional highly technically trained staff? None. Is not one who can dissect each item into its component parts and estimate their values capable of performing this task? The computation of the bricks, lime, sand, "power" in mill-ground mortar, and the various kinds of labour employed in a given number of rods, roods or yards superficial of brickwork, and, as he rightly puts it, the estimation of the relative value of each kind, the sum total of which is to equal the schedule rate, would occupy considerable time and skill. I venture to suggest that not 1 per cent. of the whole of those engaged in the building industry would pass an examination on this point. Still more difficult would it be if the contractor's profit and establisment costs were included in the item. But, as he says, it is only an estimated value of each kind. How then could he hope to succeed when the very root of the matter was at fault? The difference between costing based on scientific bills of quantities and costing on ordinary bills of quantities is so great that it is very difficult to compare them.

I feel sure that no one would question Mr. Sutherland's statement that the number of bricks laid by any bricklayer would vary from day to day, or that the number of bricks laid per day by one gang would vary from another gang on identical work; these are but natural, not only with human beings but even so with machinery. But does it not occur to him that he could, by ascertaining these, obtain *reliable averages*, as in the case of average output by machinery?

With regard to the last point, I have shown that there are many systems of quantities in vogue to-day. The practice in Manchester and the North is to give the items under "Carpenter" somewhat in the manner desired by him, but they cannot be said to be practical, as the items embrace both materials and labour, and are of no service to the contractor beyond estimating and forming the schedule of prices. Practical and scientific bills of quantities are standardised to apply throughout the country.

Mr. Sutherland seems to doubt the probability of builders taking to the new system. I can assure him that before many more months it will have been adopted by scores of housing committees, and up to the present it has been well received by builders. I have pointed out that practical and scientific bills of quantities should lead to better and closer tendering, and the following results, taken from a number of various building works, show the average between the highest and lowest tenders on ordinary bills of quantities and practical and scientific bills of quantities.

Ordinary Bills of Quantities.

Pre-war, 16.6 per cent.
Post-war, 38.55 per cent.

Practical and Scientific Bills of Quantities.

6.92 per cent.

Taking into consideration that the system I have propounded is new, that contractors have been accustomed to estimating on the old system, and that the conditions of the present day are so complicated and difficult, the results are very satisfactory, far better than anything that has ever been achieved before.

T. SUMNER SMITH.

London County Westminster and Parr's Bank

The annual ordinary general meeting of the shareholders has been held at the head office, 41, Lothbury, E.C. Mr. Walter Leaf (the chairman) who presided, analysed the leading figures of the balance sheet. Their deposits had grown during the year by 42 millions, of which about six were due to the absorption of the Nottingham and Notts Bank. In so far as the figures were only a reflection of an inflated currency, these large figures were by no means a ground for satisfaction; and they would be entitled to congratulate themselves when a falling off in circulation began to reduce them to a more modest total. There was a large increase under the head of advances to customers and acceptances. This was the measure of the assistance the bank was giving to the remarkable increase of British commerce and industry which was developing. The demands which they anticipated, and which were a strong motive for the strengthening of the large banks by amalgamation, were now coming upon the bank in full force, and at the present rate promised soon to tax all our resources to the full. The depreciation of our currency, with its direct effect in the rise of prices, was a matter which came home to all of us, and was at the bottom of a great part of the universal sense of unrest. He was no believer in proposals for artificial restrictions of the currency. The only remedy was to attack the fever, to stop the issue of claims to currency in the form of Government expenditure and Government credits. With regard to the international position, he observed that it was necessary to take a wide and humane view, a generous outlook which took cognizance of more than the passions of the moment. We must recognise that the attempt to annihilate Germany by preposterous demands for reparation would hurt ourselves far more than it would hurt Germany, and would mean not only economic but social suicide for England. Nor must there be any boycott of German trade. The report was unanimously adopted and other formal business transacted.

The Ideal Home Exhibition

THE "Daily Mail" Ideal Home Exhibition, which was opened by Princess Alice of Athlone, contains a large number of interesting exhibits dealing particularly with housing ideas, domestic invention, and labour-saving devices. The Ministry of Health display a number of approved workmen's cottages. Houses, constructed from the designs of the architects which won the prizes in the "Daily Mail" Ideal Workers' Homes Architects' Competition, and specimen rooms designed by the architect who won the first prize in the "Daily Mail" Ideal Labour-Saving House Competition are also shown. An interesting feature of the exhibition was the housing conference of the R.I.B.A., a report of which will be found on another page. Appended are some brief particulars with regard to the more important trade exhibitors:

Higgs and Hill, Ltd., Crown Works, Lambeth.—Escritoire of mahogany with sycamore handles, escutcheons, and edgings; a mahogany chair and a gate-leg mahogany table; escritoire in oak, the design of which is based upon work at the time of William and Mary; and a bedroom suite—a copy of fine late Georgian furniture of about the date 1820.

Ferodo, Ltd., London.—Patent Ferodo non-slipping stairtreads, designed to suit all requirements. They can be fixed to wood, stone, iron, or marble, and can be used in conjunction with rubber, linoleum, carpet, or any other material.

Bovis, Ltd., London.—A specimen room showing an effective but simple "Bovis" decorative scheme. "Compactom" wardrobes, trolley tables, and other furniture, all designed for economy of space, labour, and money.

Hampton and Sons, Ltd., Pall Mall.—A series of specimen rooms, decorated and furnished throughout, consisting of a hall, a dining-room, a drawing-room, and a bedroom.

Waring and Gillow, Ltd., London.—A series of rooms, consisting of hall, dining-room, drawing-room, bedroom, and nursery, furnished and decorated in styles typical of past periods, and adapted to modern taste and comfort.

Coalbrookdale Co., Ltd., London.—The K.B. Range (with roasting attachment) for large houses and as an auxiliary, and for small houses the "Thrift" Range; combination grates for housing schemes, and grates for heating sitting-room and bedrooms together.

Richard Crittall and Co., Ltd., London, demonstrate the use of rubbish-burning boilers for domestic hot-water service, heating, etc.; a silver burnishing machine and sundry small household labour-saving devices.

Smith and Wellstood, Ltd., Bonnybridge.—Examples of patent ranges, stoves for anthracite or coke, examples of eighteenth-century armour-bright grates, and a portable copper, one of the first cooking stoves made by the firm in 1856.

The London Warming and Ventilating Co., Ltd., London.—A one-ring gas cooker—the gas cooker combining constant hot-water service—and their patent boiler-grate.

The Interoven Stove Co., Ltd., London.—The improved Interoven combined cooking and sitting-room stove, fitted with a capacious oven hotplate and boiler; and the "Bewty" expanding barless fire front, a coal and labour-saving device readily fitted to any grate.

Heal and Son, Ltd., London, are giving a demonstration of the use of pure full-colour in decoration and painted furniture.

The Hot-Water Stove Co., Guildford.—Tubular wrought-iron open fire central heating boilers, tubular range boilers, and Hidoven combination stoves.

Ajax Heaters, Ltd., North Finchley.—The "Ajax" geyser, which has been designed to meet the demand for a safe geyser that can be taken apart for cleaning or inspection purposes without the use of tools or disturbing the gas or water connection.

Carron Co., London.—Selection of high-class fireplace suites, slow-combustion dog grates fitted with patent Blacktoun bottom grating, interior grates with barless fires, electric heaters and gas fires, and the "Beetonette" portable cooking range.

Strode and Co., Ltd London.—Types of installations for electric light and power, central heating, domestic hot-water supply, air gas plants, bells, telephones, etc., all designed on labour-saving and fuel-economising principles.

The General Electric Co., Ltd.—An all-electric house, designed by Albert J. Thomas, L.R.I.B.A., for people of moderate means. All kinds of electrical appliances are also shown.

Quead, Ltd., London.—A selection of their well-known electric fires; a classical selection of high-class "Period style" artistic sheet metal electric fires, and table cooker combination, electric irons, fans, etc.

Spensers, Ltd., London.—Petrol gas generating apparatus, ornamental fittings and accessories, cooking and heating apparatus, large and small gas cookers, radiators, gas rings, irons, and other accessories, and a door closer.

Callender's Cable and Construction Co., Ltd.—The electric lighting of the two portions of rooms is carried out completely on the "Kaleeco" system of wiring, and shows the suitability of the wire and accessories for efficiently, yet unobtrusively, wiring on the surface, different classes of houses.

Siemens Brothers and Co., Ltd., London. exhibit the "Stannos" system of wiring houses and other buildings for electric light and power. The system has been designed to enable wiring to be installed at low cost, with minimum disturbance to the fabric of the building and to the interior decorations and furniture.

The Austin Motor Co., Ltd., London.—A working exhibit of a British-made 75-k.w. automatic electric lighting plant for country house or farm, and a 10½-h.p. 100-volt automatic electric lighting plant for country mansions.

Mann, Egerton, and Co., Ltd., London, exhibit the petrol air gas plant for lighting, heating, or cooking in country houses, clubs, churches, etc. Also a variety of electric labour saving appliances.

R. A. Lister and Co., Ltd., London.—Automatic electric lighting and cooking plants suitable for country houses, hotels, bungalows, etc., where a main supply is not available, and they are entirely automatic in action.

Thomas Potterton, Balham.—Selection of gas boilers, giving a working example of automatic hot water supply for domestic use, together with a system of circulation with radiators heated by gas upon the low-pressure hot-water principle, having the means of automatic control operated by the temperature of the atmosphere.

Arthur Lyon and Wrench, Ltd., Westminster.—Electric lighting sets (36-72 lights and 100-150 lights). Combination electric motor positive pump, capacity 500 gallons per hour.

Ewart and Sons, Ltd., London.—Geysers showing instantaneous hot-water service from the "Califont" to bath, basin, lavatory, etc. Geysers heated by gas and oil. Moderate price bathroom, with fittings of modern type, and display of sanitary fittings and nickel-plated bathroom accessories.

Candy and Co., Ltd., Heathfield.—Fires in special designs, some suitable for artisans' dwellings; wall tiling, samples showing their antique effects in tiles for fireplaces, etc.

F. J. Shenton and Co., Ltd.—Working exhibits of paraffin oil "gas cooker," oil burners and lights, all working and using paraffin oil.

The Eagle Range and Grate Co.—Range with all up-to-date improvements shown in operation. Semi-independent boiler capable of giving a constant supply of really hot water day and night. Cast anti-deposit circulating boiler. (First time exhibited.) Cottage range for wood or coal burning, fitted with circulating boiler.

McDowell, Steven and Co., Ltd.—Combination boiler stove, specially designed for housing schemes; in addition to a large cooking oven, hot closet and hob space for boiling; this combination provides a continuous hot water supply.

Martin Engineering Co., Ltd., London demonstrate the latest improvements in boilers, heaters, and geysers for domestic and other purposes. The boiler for cafés etc., delivers boiling water only. The new type heater dispenses with the old fire-back boiler and separate feed cistern. The "Express" geyser gives two gallons per minute at 60 deg. above coal supply.

The Stimex Gas Stove Co., Ltd., Balham Hill.—Selection of prize medal gas range and cookers, also hot-water circulators. The A1 range provides heating, cooking and hot water throughout the house in a combination which is specially designed to do away with a coal range. Selection of cookers and hot-water circulators are also shown as separate exhibits.

The Falkirk Iron Co., Ltd., Kingsway—Selection of their well-known cooking and heating equipment. The fittings shown, which are of an up-to-date and approved type, comprise mantle grates and interiors, cooking and heating stoves for coal, gas, or electricity; also baths and lavatories in finest porcelain enamel. The "Twin" hot-water system and combination interior can be seen in operation.

The Aster Engineering Co., Ltd., Wembley, exhibit a single-cylinder semi-automatic generating set, specially designed for country house lighting, farm lighting, etc. The exhibit comprises the complete equipment necessary.

W. G. Tarrant and Sons, Byfleet.—The Tarrant bungalow, which is put forward a

practical aid towards the solution of the using problem, is intended to house a all family, and is so designed that it can extended to give additional accommotion in the shape of two additional rooms r use either as bedrooms or as a bedroom d parlour, as may be required.

Horrell and Bowman, Birmingham.—tent triplex grate, at work, baking bread ovens daily, and demonstrating the ter-heating capacity of this small grate. e grate has been specially designed for rden city and housing schemes. Also a lection of their well-known specialities.

Studebaker, Ltd., London, show the lley light plant—a small, compact, pri-te electric light and power plant, consist-g of an electric generator directly driven a ball-bearing petrol engine, and a set storage batteries. Duplicate plant to at shown on the stand may be seen work-g outside in a building at the rear of the nd.

The Australia Concrete Block Machine ndicate, Ltd., London Wall.—A machine r the manufacture of concrete blocks. th an exhibition of the various makes of ocks manufactured by the machine. One the machines is in operation at all times.

The Economic Building Corporation, d., High Holborn.—Exhibit demonstrat-g economical systems of building con-ruction of a unit type, showing sections two skin intermittent cavity walls, nded in every course, including angles d jambs, and in which only three forms concrete blocks are used throughout, owing method of reinforcement for use here specially required.

The Steleonite Metal Stamping Co., td., London.—Stamped metal work for terior decorations, steel ceilings, cor-ces, etc.; ornamental work; dovetail rrugated sheeting for reinforced ncrete.

Wilfley Co., Ltd., London Wall.—Mar-lith jointless flooring, which is claimed be fire-resisting, warm, silent for walk-g, and durable. Is laid in a variety of lours, and forms the flooring and nished surface in one, no lino or other vering being necessary.

Steel Window Association, High Hol-rn.—Showing standard metal cottage indows. The Association is composed of large number of well-known London and ovincial firms.

James Gibbons, Wolverhampton.—rought-steel cottage window, with patent iding sash. The sliding sash gives nple room for the side and top lights to easily reached, and the sliding sash it-lf, when open to its full extent, automatic-ly engages on specially designed hinges, hich allow it to turn inwards into the om, thus enabling the outside of the iding sash to be cleaned.

Winget, Ltd., Westminster, S.W.—The ell-known outfit of concrete block-making achines and concrete mixers. Daily emonstrations of all kinds of block-aking are given with machines suit-le for both large and small building hemes.

Simplex Construction Co., Ltd., London. The bungalow shown marks a departure domestic architecture, the principle of eel framing, as usually applied to facto-es and warehouses, being adapted for the urpose. There is also shown this firm's atent continuous cavity concrete block.

The Ruberoid Co., Ltd., London.—uberoid for the roofing of all permanent residential, commercial, and public buildings. Made in three colours, grey, red, and green, and laid on wood or concrete. The chief feature of the exhibit is a reproduction of an actual villa to a quarter scale, illustrating the simplicity and economy of Ruberoid flat roofs.

Dorman, Long, and Co., Ltd., Middlesbrough.—A specimen of one of the types of houses built by Dorman, Long, and Co. for their housing schemes at Dormanstown, York. The self-contained steel frame is erected complete to illustrate the simplicity of construction and erection. The front elevation is completed externally, the living-room is completed internally, and the remaining portions of the house are left in various stages of construction to illustrate the special features of this type of construction.

Bell's United Asbestos Co., Ltd., London.—A cottage built throughout with Bell's Hurcan building slabs. Hurcan slabs possess a finely finished surface of asbestos cement (Poilite) sheet, to which the concrete backing is applied in manufacture. This system of construction was illustrated and described in our issue for February 4.

Vickers, Ltd., Westminster.—A model cottage erected complete with all fittings in ten days. The building and its fittings, the whole of which are manufactured by the Vickers Company and its branches, are designed to show the possibilities of the conveniences available for modern tenements, small and large.

Boulton and Paul, Ltd., Norwich.—Standard permanent wooden house, built from designs approved by the Ministry of Health, complete with internal fitting, finished in accordance with specification and as already erected in different parts of the country. There are also shown specimens of garden seats, fences, etc. On the same stand is shown an electric generating plant for country houses.

The Bonding Block Constructional Co., Ltd., London.—Walls and piers to illustrate the special form of construction adopted by the company for concrete houses, also the patent blocks used in the construction which gives a cellular form of walling with staggered piers to take the place of a cavity wall.

Self-Sentering Expanded Metal Works.—Two types of expanded metal-ribbed laths which enter into the construction, along with cement concrete, of fireproof houses and buildings. "Self-Sentering" is a steel reinforcement for concrete floor, specially designed to make unnecessary the usual timber shuttering.

The Scruby-Harkness Building Mould Co., Ltd., Harlow.—Scruby-Harkness patent mould, passed by the Ministry of Health (Housing Department) for State-aided housing schemes. The machines are let out on hire.

The British Léan Co., London.—This company has an exhibit of concrete block-making machines. The dimensions of the two-cavity block are 12 in. by 6 in. by 6 in., of the three-cavity block 12 in. by 8 in. by 6 in.

The Rawlplug Co., Ltd., South Kensington.—Rawlplugs—a patent fibre plug which obviates the difficulties encountered in securing a firm fixture into any material. The plugs are adaptable for fixing any kind of electric or gas-fitting, wires, cables, brackets, shelves, cupboards, pictures, or anything that is held by a screw in plaster.

Williams and Williams, Chester.—An exhibit of "Reliance" cottage casements arranged for a practical demonstration of their utility for rapid and economical erection of small property, greatly facilitating the solving of the housing problem. Also a heavier and more elaborate type of window and casement for larger residences, offices, and public buildings.

Tuke and Bell, Ltd., London.—Sewage purification scheme, consisting of three units, first the liquefaction tank, secondly the aerobic bacterial filter, and thirdly the humus chamber which collects the humus or effete mineralised organic matter. Domestic water softening plant.

The Ironite Co., Ltd., Westminster.—"Ironite" brand cement for flooring for machine shops, engineering works, warehouses, power stations, garages, stables, mills, refrigerating plant, packing houses, stores, dairies, etc. "Ironite" and Portland cement slurry or grouting for breeze blocks, concrete, brickwork, hollow blocks, etc.

C. S. J. Crutchfield, London.—The "Reform" water closet. An entirely new pattern in both the pan and the seat, designed for hotels, public lavatories, institutions, and hospitals.

The Unit Construction Co., Ltd., London.—A selection of designs, plans, and photographs of house and factory construction upon the "Unit" method approved by the Ministry of Health, which is being employed on the housing scheme for the Braintree Co-operative Homes, Ltd., Braintree, Essex.

W. Alban Richards and Co., Ltd., London.—Model of workmen's dwelling showing three types of wall construction and special arrangements for lighting and heating, also various exhibits showing possibilities of construction in pisé de terre together with sample blocks from various parts of the British Isles.

Jenson and Nicholson, Ltd., Stratford, show the application of Robbialac enamel for house decoration in flat Robbialac finish, gloss Robbialac finish, and Mat Robbialac finish, in the form of complete colour schemes for interiors and exteriors.

"Solignum" Wood Preservative and Stain.—Major and Co., Ltd., Hull, are exhibiting by means of an attractive wooden pavilion their "Solignum" wood preserving stain applied to outdoor and indoor woodwork. The interior is designed to show the advantage of "Solignum" as a decorative stain in place of paint.

Paripan, Ltd., London. — Paripan enamel in glossy and flat (dull) finishes for the washable painting of walls, woodwork, ceilings, dadoes, doors, front doors, baths, and all surfaces in houses, institutions, shops, offices, etc.

Arthur Sanderson and Sons, Ltd., Berners Street.—Wallpapers, paints, cretonnes, and materials for home decoration; leathers in a variety of colours; Fabrikona, a canvas with a waterproof backing; and enamels, paints, and distempers for interior and exterior use.

Noflame Paint Co., London.—"Noflame" is claimed to be washable, damp-resisting, and durable, and may be put to many uses in the home, stables, garage, etc.

Anaglypta, Lincrusta, Lignomur, and Cameoid Branches of the Wallpaper Manufacturers, Ltd., London.—Applied

relief ornament in various periods, for the decoration of walls and ceilings, etc. Also Lincrusta wainscot oak panelling and glazed tile decorations.

Pinchin, Johnson, and Co., Ltd., Aldwych, display the vast possibilities of paints, enamels, varnishes, etc., for use in the home. A representative selection is shown, and the majority of the effects are entirely suitable for all grades of housing schemes.

Venesta, Ltd., London.—An example of a room with walls covered with their ply boards in lieu of lath and plaster. They also show designs of oak panellings suitable for dining-rooms, halls, libraries, etc., and parquet flooring.

The Nautilus Fire Co., Ltd., Oxford Street.—An oak-panelled hall with a barrel ceiling in modelled plaster. A new type of labour-saving kitchen, and bathroom and examples of antique furniture.

Essex and Co., Ltd., Westminster.—The newest designs and colourings of wallpaper for 1920 are being exhibited. Sevrès enamel is used on the stand. Walpamur is shown and its velvety tone illustrated.

The Receivador Co., Nottingham.—The Receivador consists of two or more compartments placed in a door or in a wall under a window, and permits 95 per cent. of the daily deliveries to a house or flat being made by tradespeople so that they may be extracted only from within the house at one's convenience, while theft is impossible.

The British Vacuum Cleaner Co., Ltd., London.—Portable hand and power operated vacuum cleaners and stationary cleaners for use in central vacuum cleaner installations.

Staines Kitchen Equipment Co., Ltd., Victoria.—Kitchen labour-saving devices and equipment. Patent greaseproof sinks for all purposes, with self-contained gas heater, shown in operation with patent plate and cup rinsing and draining racks.

Rippers, Ltd., Castle Hedingham.—Special revolving cupboards and combined kitchen dressers and tables with an adaptation (separate) for nursery use.

Benham and Sons, Ltd., London.—"Electric-Vapour" radiator. An electric range is also being shown, together with other electric apparatus for use in the home, such as electric irons, kettles, etc. Luminous type radiators are also to be seen.

Duncan Watson and Co., London.—Demonstration of electrical labour-saving domestic appliances, including cookers, fires, radiators, vacuum cleaners, etc., also a self-contained electric generating set suitable for small country houses, farms, etc.

Ribas Bosch and Co., London.—Selection of cork articles manufactured for furnishing, decorating, construction, sanitation, etc.

The Coatostone Decoration Co. of London, supplied the coatostone for the outside decoration of the pair of cottages No. 5, the design of Mr. Horace L. Massey, which won the first prize in the "Daily Mail" Ideal Workers' Home Architects' Competition.

The exhibition, which is open daily from 10 a.m. to 10 p.m., is due to close on February 25. To-day the final session will be held of the International Conference on Housing and Town Planning.

Luxury Building

The Ministry of Health have issued a memorandum and copies of "The Housing (Regulation of Building) Order, 1920," and "The Regulation of Building (Appeal Procedure) Rules, 1920," which have been made under Section 5 of the Housing (Additional Powers) Act, 1919. Subsection (1) of this section provides that "where it appears to a local authority that the provision of dwelling accommodation for their area is or is likely to be delayed by a deficiency of labour or materials arising out of the employment of labour or material in the construction within their area of any works or buildings (other than works or buildings authorised or required by, under, or in pursuance of any Act of Parliament), and that the construction of those works or buildings is in the circumstances of the case of less public importance for the time being than the provision of dwelling accommodation, the authority may by order prohibit for such time and on such terms, and subject to such conditions as the Minister may from time to time prescribe, and either in whole or in part, the construction of those works or buildings."

The object of this enactment is to enable local authorities to safeguard, in relation to the supply of labour and materials, the provision of dwelling accommodation for their area. Where circumstances so require they may prohibit the commencement of works or buildings (including the making of alterations of, or additions to, existing works or buildings), and they may also prohibit the construction of works or buildings which have already been begun. The new powers are conferred on the ground of the extreme urgency of the provision of housing accommodation, and the exercise of these powers calls for great care and discretion on the part of local authorities. It is only competent to the local authority to exercise these powers in cases in which the provision of dwelling accommodation is delayed or likely to be delayed, and, further, before prohibiting any works or buildings the local authority should satisfy themselves that such works are of less public importance for the time being than the provision of dwelling accommodation.

It is not proposed for the moment to prescribe definite rules for the guidance of local authorities in deciding what classes of buildings should be prohibited. The determining factors will depend on local circumstances, and it may well be that a type of building which in one district must be prohibited, in another district might properly be allowed to proceed. Many local authorities have already conferred with builders in their area with the object of securing a definite programme of house-building. It is suggested that such conferences should be held at once, where they have not already taken place, or that the scope of them should be extended. By means of such conferences it will often be practicable to secure an agreement for the carrying out of an adequate building programme with the minimum of disturbance to the building trade. But the urgency of the situation requires that any such agreements should be concluded without delay. Prolonged negotiations cannot be carried on while house-building is being delayed by competitive work on buildings of less public importance at the present time.

It is not necessary that a local authority should defer the exercise of their powers until the building of dwelling accommodation is actually being delayed, but they should not take action unless there is a definite and immediate prospect of the commencement of house-building to which labour employed on prohibited works can be transferred. The Housing (Regulation of Building) Order, 1920, prescribes the procedure to be adopted, where it is necessary to make an order under the section, the form of order to be made, and the form of notice to be given to the builder. It will be observed that before making the order the local authority are required to take into consideration any representations or objections that may be made by the builder or building owner. An order made by the local authority will remain in force for a maximum period of six months, after which the circumstances will be reviewed.

Where an order is made prohibiting the execution of works or buildings actually under construction, the local authority should consider carefully whether any work is necessary for the preservation or protection of the work already done and definite provision should be made in the Order enabling this protective work to be carried out. The local authority should also consider whether there is any part of the works which may properly be exempted from their order on the ground that the type of labour or materials required for that part of the works is not such as to interfere with the provision of dwelling accommodation. If any person is aggrieved by the Order made by the local authority he may appeal to the Minister of Health, who will refer the matter to a standing tribunal of appeal, whose decision will be final. The Regulation of Building (Appeal Procedure) Rules, 1920, define the procedure to be adopted in such a case. When an appeal is made a copy of the notice of appeal will be sent to the local authority by the Clerk of the Appeal Tribunal. The local authority will then, within seven days, send a notice to the Clerk to the Appeal Tribunal and to the appellant stating whether, and to what extent, they admit the facts stated in the appellant's notice of appeal, and including a concise statement of the grounds on which the order is based.

Coming Events

WEDNESDAY, FEBRUARY 18.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Evolution in Modern Methods in Industry," by Mr. W. W. J. Grosart. 7.30 p.m.

FRIDAY, FEBRUARY 20.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture, "Some Points in Reinforced Concrete Design," by Mr. H. Kempton Dyson. 6 p.m.

THURSDAY, FEBRUARY 26.

Bartlett School of Architecture, University College, Gower Street, London.—"The Trend of Architectural Thought in England To-Day," by Professor Simpson. 5.30 p.m. Admission by ticket.

WEDNESDAY, MARCH 3.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Economical Production and Prevention of Waste," by Mr. H. Atkinson. 7.30 p.m.

FRIDAY, MARCH 5.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture on "Some Properties of Steel," by Mr. Ewart S. Andrews, B.Sc. (Eng.). 6 p.m.

Town Development and Housing

Oldbury.

A building scheme involving an outlay f one million pounds, and the erection of ,315 houses, has been adopted by the Oldury (Worcestershire) Council.

Hayes.

Hayes Urban Council has accepted a ontract for 726 houses as first instalment f a scheme of 2,000 houses. The contracors have undertaken to complete fifty ouses per month after the first three onths.

Railway Housing Scheme.

Feltham Council has approved plans for number of houses which the London and outh-Western Railway Company will rect in the district for their employees at e large Feltham goods yard. The comany are building these as an experiment h the matter of cost prior to embarking pon a larger scheme.

Aberdare.

Aberdare U.D.C., to whom Mr. W. D. enkins, A.R.I.B.A., is architect, have ccepted the following tenders: For xteen houses of the parlour type, and y-out complete, on the Abernant site, 12,494; for seventy-two parlour type ouses and lay-out complete, on the Cwmeol site, £63,000.

Prague.

According to "Narodni Listy," a Dutch ompany with a capital of 5,000,000 Dutch uilders, is planning to build 100 dwelling ouses with 2,000 apartments at Prague nder a State or Municipal guarantee, 5 er cent. interest to be paid on the capital. he Government regards the project vourably.—Reuter's Trade Service.

Huddersfield.

The Huddersfield Corporation is prooting a Bill in Parliament next session r power to borrow £1,400,000, repayable one hundred years. The whole of this oney is proposed to be expended on the urchase of the Ramsden estate, in Hudersfield, comprising an area of 4,642 res, of which 1,272 acres are built upon nd 3,770 acres remain to be developed.

Swindon.

The suggestion that the site of the dere-t Wilts and Berks Canal should be ansformed into pleasure grounds and a itable war memorial erected in some ntral spot has been discussed by the vindon Town Council. It was agreed at an estimate of the cost of laying out e site should be prepared by the survor and submitted to the Council.

Wednesbury.

The Wednesbury Council have decided proceed further with the housing heme, and in addition to the sixty-four vellings already sanctioned on the Wood reen site, 177 more are to be erected. ne whole of the houses are to be up by e end of December, and the scheme proides for the same number to be built each ar for three years.

Scotland.

Lord Salvesen, chairman of the Scottish terans' Garden City Association, at a eeting at Edinburgh, said that some urteen schemes had been begun or were hand, and in eleven cases the sites had her been built upon or the building ans had been approved by the Ministry Health. This year they were able to me under the Government housing gislation. That had been secured by the successful formation of a public utility society. By this means the Association would now be entitled to a subsidy from the Treasury of 30 per cent.

Radcliffe.

The Bingham R.D.C. have accepted a tender for the erection of sixteen houses at a total cost of £13,269 18s. 9d. The houses are to be built on the Shelford Road, Radcliffe, will be semi-detached, and will contain a parlour, living-room, and scullery, with three bedrooms, bathroom, and water closet. They form part of a larger scheme to be carried out by the Council.

London Garden City.

Representatives of the borough councils of Deptford, Bermondsey, and Lewisham decided that Deptford and Bermondsey should proceed with the Garden City scheme without the assistance of Lewisham, who have voted against it. It is proposed to erect 4,500 houses on 450 acres of ground at Bromley Hill, within the parish of Lewisham, at a cost of about £5,000,000.

Duddingston.

The Housing and Town Planning Committee of Edinburgh Town Council have decided to utilise part of the Duddingston Camp for the provision of houses. As soon as negotiations are completed the scheme for converting between forty and fifty huts will be proceeded with. Each hut will be divided into two houses, consisting of a living-room, three bedrooms, scullery, etc., and a small piece of ground attached. A communal bathing establishment is provided under the scheme, as there will be no bathrooms in the houses. It is estimated that the cost of conversion will be about £350 per house.

The Grants to Builders.

In a memorandum by the Minister of Health prescribing the conditions governing the making of grants under Section 1 of the Housing (Additional Powers) Act, 1919, copies of which have been sent to each local authority, attention is drawn to the fact that grants may only be made in respect of houses the construction of which is begun after the passing of the Act. The Ministry are advised that construction must be held to have begun if work was commenced on the construction of the foundations, but not if the only work done consisted of the preparation of the site or the transport of materials to the site.

Lanark.

The Housing Committee for the Lower Ward of Lanark have received a letter from the Board of Health regarding the number of apartments in houses proposed to be erected under the housing scheme. The Board commented on the fact that the local authority contemplate the erection of houses of three and four apartments in the proportion of 75 per cent. and 25 per cent. respectively. The Board are of opinion that generally not more than 50 per cent. of the houses to be erected under State assistance should be of less than four apartments, and they point out that it is necessary to anticipate the housing standard likely to be acquired in future years. The Board's experience is that for the housing of large families three rooms are not considered adequate. The committee, after consideration of the letter, were unanimously of opinion that the proportions of three and four apartment houses proposed in their scheme are sufficient and suitable for the requirements of the district, and that there is no necessity for five apartment houses. They accordingly resolved to adhere to the size of houses proposed.

Weston-super-Mare.

Several big cinema schemes are on foot, and, taking advantage of the powers conferred by the Housing (Additional Powers) Act, the council has intimated that it will let them go forward only on condition that dwelling houses to a similar value are erected at the same time. At a council meeting it was notified that the contractors for the Regent Street picture house had accepted this condition, and had undertaken to erect twelve workmen's dwellings at an approximate contract price of £12,000. This will probably be a settled policy of the Council in regard to all buildings or works liable to hold up the housing scheme.

West Bromwich.

The West Bromwich T.C. report that sanction of the Ministry of Health has been received to the borrowing of £9,500 for the construction of roads and sewers on the Tantany estate, repayable within twenty-five years. Tenders had been received from builders for the erection of the first fifty houses, but they were higher than anticipated, and were at present under consideration by the Housing Commissioner. The builders had been interviewed, and a further report would be presented later. The Council was asked to approve of a contract being entered into for the immediate erection of 150 steel structure houses, with concrete facing and concrete slabs inside.

Employment for Ex-Service Architects

Some months ago a good deal of adverse criticism was aroused by a statement made by Captain M. G. Kiddy, assistant-secretary of the Society of Architects, to the effect that the Society's Appointments Register showed at that time a demand for qualified architects' assistants in excess of the supply. These critics suggested that there was little or no demand for architects' assistants, whereas the supply was practically unlimited. Probably they had in mind the "unemployable," and also overlooked the fact that the statement was confined to the position of affairs as revealed only by the Society's Register. However that may be, it may be interesting to note that since then the Society has dealt with demands for capable assistants from upwards of ninety employers, and that the large majority of these vacancies have been filled by candidates selected from ex-Service architects who sought the Society's help largely as a result of the Press publicity given to the matter. This register is maintained at the expense of the Society, and all service has been rendered gratuitously to the many candidates who have benefited by it, the measure of whose gratitude may be weighed from the fact that the Society has during the period mentioned received one letter of thanks. The use of the register, which was for the time being open to all architects, is now restricted to members of the Society, it being felt that the requirements of other architects may be met by other organisations.

The Week's News

An Irish Memorial.

A round Irish tower is to be erected at Ballymoney as a war memorial.

New Town Hall.

Portstewart has decided to erect a town hall as a war memorial.

Wandsworth Hospital.

The sum of £10,000 is required for the Wandsworth War Memorial, which is to be a maternity home.

Redditch Memorial.

It is proposed to erect a large public hall as a war memorial at a cost of £16,000.

Shipyard for Chatham.

A private shipyard, covering sixty acres, is to be established at Chatham capable of building vessels up to 10,000 tons.

Glasgow's New Road.

A new road is to be constructed between Glasgow and Renfrew in order to relieve the traffic congestion of the district.

Northampton Hall.

The Northampton Council is considering a bold scheme for a public hall, and Parliamentary powers will be required in order to proceed with the project.

New Thames Bridge.

The new two-span bridge, to replace the Albert Bridge over the Thames at Windsor, is now to be proceeded with: the project was suspended in 1914 owing to the war.

Millbank Improvement.

The London County Council is recommended to accept the offer of the Millbank Syndicate, Ltd., of £7,386 a year for a site having frontages to Millbank and Horseferry Road.

War Damage.

The Committee on War Damage have issued a circular letter asking municipal authorities to make it known throughout their areas that the Board of Trade will shortly be prepared to consider claims for damage done by enemy air raids and bombardments.

London County Hall.

Fixing of the marble work in and around the Council Chamber of the new London County Hall has begun, and Portland stone has been laid to the extent of 6,000 cubic feet. The Italian Government is presenting the L.C.C. with two blocks of Italian marble to incorporate in the structure.

White City Renovation.

In the event of the evacuation of the White City by the Air Ministry, which is anticipated this month, the directors of the Shepherd's Bush Exhibition, Ltd., hope to start renovating the buildings and grounds in readiness for an Inter-Allied Victory Exhibition in 1921. The cost of renovation is expected to reach £500,000.

Eighteenth Century Porcelain.

The Victoria and Albert Museum has received an important bequest of 18th century porcelain, which consists of a hundred pieces, the greater part of which were made at the Royal Saxon Factory at Meissen. The majority are figures and groups, modelled between 1740 and 1765 by Johann Joachim Kaendler and his pupils. Kaendler, the celebrated manager of the Meissen factory, may justly be considered the father of porcelain figure-modelling in Europe.

Primarily a sculptor, it is to him that we owe the original idea of depicting in porcelain the everyday life of his time, while the modelling of articles for table purposes was revolutionised by his vigorous use of relief.

Mr. Ewen Harper, F.R.I.B.A.

We regret to announce the death of Mr. Ewen Harper, F.R.I.B.A., which took place at Moseley. Mr. Harper, who was one of the leading architects of Birmingham, had been ill some weeks, having had a seizure about a month ago. Mr. Harper was architect to a large number of Wesleyan trusts in and around Birmingham, and held all the offices that a layman could hold in connection with the Wesleyan body. He had much to do with the designing of Birmingham's modern buildings, and was responsible for the architecture of the Central Hall, Corporation Street, and the Temperance Hall, Temple Street. Other buildings designed by Messrs. Ewen Harper and Brother are the Friends' Hall and Institute, Moseley Road, the Almshouses, Bournville, the Wesleyan and General Assurance Offices, Steelhouse Lane, the Electric Power Station, Summer Lane, the Y.M.C.A. Buildings, Dale End, and the Phœnix Buildings, Colmore Row.

Rugby School Memorial.

Plans have been adopted for a chapel to be erected in the Close as a memorial to the old scholars of Rugby School who have fallen in the war. The chapel will be 57 ft. in length, and will be constructed largely of Clipshaw stone. It will be built in the north-west angle of the Close, and will be connected with the west door of the School Chapel by a cloister, and with the south transept by a vestry available for either. It will be cruciform in shape, with one five-light window in each of the four arms. The stained glass for these windows has already been given by an Old Rugbeian. The names of the fallen, 650 in number, will be inscribed on the walls of the two transepts, and the seven volumes of "Memorials of Old Rugbeians" will be preserved in it. The chapel will have a seating capacity of 120, and it is intended to use it for early celebrations, confirmations, addresses, and similar services. Messrs. Woolridge and Simpson, of Oxford, will carry out the work, and the architect is Sir Charles Nicholson, of London. In addition to the chapel it is proposed to erect a cross in connection with the memorial scheme, and this will be placed to the east of the New Big School.

Concealed Lighting in a Church.

In the lighting of some churches it is desired to produce a dim, mysterious illumination. In others the most important desideratum is brilliance. Sometimes ponderous and elaborately-wrought fittings are considered necessary, and at others the tendency is to eliminate fittings altogether and to rely upon concealed units. The degree of illumination, the question of employing visible or concealed units, and, if visible, the design and period of fitting to be used, all depend upon three factors, viz., the interior architecture of the church, the kind of service carried on, and the personal preferences of the responsible authorities. With Mazda electric lamps, and the many types of reflector equipment available, the British Thomson-Houston Co., Ltd., claim that any desired illumination effect may be obtained. In the interior illustrated (Church of the Sacred Heart, Donnybrook), the company, who were responsible for the manufacture of the appliances used and for the general scheme of the installation, aimed at a daylight effect. The main illumination proceeds from units fixed 26 ft. from the ground on the east side of the wooden bracket posts supporting the timbered ceiling. Each unit consists of a 3-section battery of Mirflux trough reflectors, containing three 100-watt Mazdalite tubular lamps. In the north and south aisles similar units are fixed on the north and south sides respectively of the spandrels of the main arches. All units point towards the east end of the church, so that the lamps are normally invisible to the congregation. As may be seen from the photograph, which was taken at night by the light of the Mazdalite lamps installed, the illumination is brilliant and is very well distributed.

CONCEALED ELECTRIC LIGHTING IN A CHURCH.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of sue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR	
xcavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
abourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
avvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
imberman, 1s. 9d. per hour.	In underpinning, add 120 per cent.
caffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
atchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
roken brick or stone, 2 in., 7s. per yd.	Headings, including timbering, add 400 per cent.
ames ballast, 17s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
t Gravel, 17s. 6d. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
t sand, 18s. 9d. per yd.	Planking, 5½d. per ft. sup.
ashed sand, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
reened ballast or gravel, add 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
inker, breeze, etc., prices according to locality.	Do. 6 in. thick, 2s. 9d. per yd. sup.
ortland cement, 79s. per ton.	Puddling, 30s. per yd. cube.
o. in small lots, ex London stock, 100s. per ton.	Cement concrete, 4.2.1, 53s. per yd. cube.
ias lime, 64s. per ton.	Do. 6.2.1, 49s. 9d. per yd. cube.
acks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in upper floors, add 12½ per cent.
ransport hire per day:	Do. in ferro concrete work, add 20 per cent.
Cart and horse, 26s.	Do. in underpinning, add 50 per cent.
3-ton motor lorry, £6.	Lias lime concrete 41s. 3d. per yd. cube.
Steam lorry, 5-ton, £7.	Breeze concrete, 26s. per yd. cube.
Trailer, 30s.	Do. in lintols, etc., 4s. 9d. per ft. cube.
Steam roller, £4 10s.	
Water cart, 30s.	
RAINER.	
abourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
imberman, 1s. 9d. per hour.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6-in. 14s. 6d., 9-in. 25s. 6d. per ft.
ricklayer, 1s. 11½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
lumber, 2s. per hour.	
atchman, 6s. 6d. per shift.	
toneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
ast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
ortland cement and sand, see Excavator above.	
ead for caulking, 49s. 3d. per cwt.	
asket, 1s. 9d. per lb.	
RICKLAYER.	
ricklayers, 1s. 11½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
abourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
caffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
ondon stocks, 84s. 6d. per M.	Do. circular on plan, add 12½ per cent. per rod.
lettons, 75s. per M.	Facings, fair, 3d. per ft. sup. extra.
taffordshire blue, 220s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
irebricks, 2½ in., 223s. per M.	Do. picked stocks, 6d. per ft. sup. extra.
lazed, salt, white, and ivory stretchers, £25 per M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
o. headers, £24 10s. per M.	Struck pointing, 4d. per ft. sup. extra.
olours, extra, 130s. per M.	Tuck pointing, 10½d. per ft. sup. extra.
econds, less, £1 per M.	Weather pointing, 4d. per ft. sup. extra.
ement and sand, see Excavator above.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
ime, grey stone, 62s. per ton.	Do. 1½-in., 5s. 10d. per yd. sup.
ixed lime mortar, 24s. 3d. per yd.	Do. 2-in., 7s. 6d. per yd. sup.
amp course, in rolls of 4½ in. 4s., 9 in. 7s. 3d., 14 in. 10s. 9d., 18 in. 14s. per roll.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 1s. 2d. per ft. sup.
	Do. vertical, 1s. 6d. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 10s. 9d. per yd.
	Do. skirting, 6-in., 1s. 5d. per yd.
ASON (INCLUDING SLATE).	
ason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
o. fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
abourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
caffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
ortland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. per ft. sup.
ath stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. per ft. sup.
ork paving, av. 2 in., 9s. 6d. per yd. sup.	Do. do. circular, 2s. 8d. per ft. sup.
ansfield red, 7s. 6d.	Circular-circular work, 10s. 3d. per ft. sup.
(Usual trade extras for large blocks.)	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone, 25 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 2d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 44s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 74s., Countess 83s., Duchess 90s. per square.
Tiler, 1s. 10½d. per hour.	Westmoreland, in diminishing courses, 142s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 85s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 4s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 9d. per ft. approx.
Clips, lead, 9½d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 82s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 75s. per square.
Nails, compo, 56s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggie 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per sq.
Archangel:	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 93s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 29s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 108s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 3d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d., 1¼-in. 16s. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 80s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 4d. per ft.
	Do. ¾-in., 3s. per ft.
Lead, milled sheet, 61s. 6d. per cwt.	Do. 1-in., 3s. 6d. per ft.
Do. Drawn pipes, 62s. per cwt.	Do. 1¼-n., 4s. per ft.
Do. soil pipe, 67s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 10s. per ft.
Do. scrap, 30s. per cwt.	Do. 3-in., 10s. 9d. per ft.
Copper, sheet, 2s. 8d. per lb.	Do. 4-in., 15s. 6d. per ft.
Solder, plumbers, 1s. 6d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Do. fine, 2s. 4d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 9d. per lb.	Do. 4-in., 3s. 5d. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 1d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each.
	Baths only, with all joints, 37s. 6d. each.
	Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4¼d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7¼d. per ft.
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing in beads, 21 oz. 1s. 2¼d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Cathedral, ordinary, 9½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 1s. 0¼d. per ft	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
	Do. in Thistle plaster, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on ceilings, 6d. per yd.
Keene's cement, 90s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 65s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3¼d. per ft. lin.
Do. fine, 66s. 6d. per ton.	
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 95s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Figured do. do. 7s. 9d. per yd. sup.
Turpentine, 10s. per gall.	French polishing, 1s. 9d. per ft. sup.
Liquid driers, 20s. per gall.	Stripping old paper and preparing, 2s. per piece.
Knotting, 29s. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.
Petrifying liquid, 3s. 6d. per gall.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Double size, 7s. per firkin.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Pumice stone, 9d. per lb.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per ton.
Erector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt.
	Fixing only corrugated sheeting, including washers and driving screws, 1s. 5d. per yd.
Cast-iron, heavy	
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £46 per ton.	
Do. Galvd., £57 per ton.	
Corrugated sheets, black*	
Do. Galvd., £55 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 2s. 10d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 4s. 7d. per yd. sup.
Do. corrugated, 6s. 3d. per yd. sup.	Do. do. corrugated, 8s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 8s. 9d. per yd. sup.
	Hanging only metal casements in, but not including wood frames, 5s. 6d. each.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft. sup.
Do. in metal frames, 3s. 10d. per ft. sup.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square grey 66s., red 67s. 3d.
Asbestos cement slates or tiles, 5-32 in. punched, per gross, grey £23 10s., red £25 10s.	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Waterproofing compounds for cement:	
Wrought iron R.W. goods:	Gutter-fixed, 1s. 4½d. per ft.
R.W. gutter, 4 in., per yd. 1s. 10d.	Roof-fixed, 1s. 9d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

High Prices

The complaint of excessively high prices in the building trade appears to be general throughout the country, and more than one building scheme has been abandoned from this cause. It is difficult to indicate a single price ruling at the present time which compares favourably with pre-war rates, after making due allowance for legitimate increases brought about by the war and relative conditions.

Timber has within the last few days made a huge jump.

The rates for manufactured sheet lead, piping, etc., bear no comparison with either the price of foreign or home ores or pig lead.

It remains to be seen whether we shall have to pay a fair or excessive increase in the cost of cast-iron goods as a result of the recent strike of moulders, while, touching upon the question of Portland cement, it is well nigh hopeless to obtain either a firm quotation, or even the acceptance of an order.

The consumption of building materials cannot at present be upon anything like the pre-war scale, and therefore it does not seem that the rule of supply and demand is governing the present high prices, and it is to be feared that there is little, if any, doubt of the existence of "rings" or associations, whose principal object is to maintain or increase the ruling inflated prices.

The present seems an opportune moment for manufacturers and others interested to give a lucid explanation of the position, or, in default, be judged guilty of a desire to profit unduly.

Our Small Advertisements

A number of vacancies for architects assistants, quantity surveyors, etc., will be found on page xxiv.

Architects' assistants are required for the offices of Messrs. Buckland and Haywood, FF.R.I.B.A., of Birmingham; Messrs. Callcutt and Hamp, of London; the Housing and Town Planning Department of the County Borough of Wakefield; Messrs. Watkins and Adams, Stoke-on-Trent; the County Borough of Rochdale; the Essex County Council; and for offices in Cardiff and London.

Vacancies for quantity surveyors are announced in the offices of the City Architect's Department at Bradford, and the Ministry of Agriculture and Fisheries. A quantity surveyor is also wanted for a Liverpool office, and a visiting teacher of quantity surveying for the Hackney Institute of the London County Council.

Advertisements also appear for draughtsmen in the north of England, etc.

A firm of architects, with practice in West Coast of Wales, desires a pupil.

Technical Journals, Ltd., require a smart youth for their editorial department.

An architectural draughtsman is open to render spare time assistance to architects and builders.

The Metropolitan Asylums Board invite tenders for the erection of a sanatorium at Highdown, near Godalming, Surrey. Forms of tender, etc., may be obtained from Mr. Duncombe Mann, Clerk to the Board, Embankment, E.C.4.

Hard core suitable for road making is required by a builder.

Wednesday, February 25, 1920 Volume LI. No. 1312

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

PLYMOUTH PROPRIETARY LIBRARY. FROM A DRAWING BY T. ALLOM.

(See also Frontispiece.)

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 1.—The Proprietary Library, Plymouth

It is interesting to compare this illustration, which is from a photograph of the library as it is to-day, with the reproduction of T. Allom's drawing of the same interior as it was left by John Foulston, the architect (see preceding page 239). The modifications of his work have luckily been so slight as to be hardly perceptible.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
ednesday, February 25, 1920 Volume LI. No. 1312

The Institute and Architectural Education

ON the whole, the R.I.B.A. education debate was disappointing. It did not, alas, disappoint expectation, for we all knew what to expect, and we got it strictly in accordance th the accepted prescription, "Blessed be he that pects nothing, for verily he shall not be disappointed." t the debate disappointed a faint hope that the Board Education would put forward a firmly outlined policy, sed on experience, framed sagaciously to meet present eds, and exhibiting also a certain degree of prescience ncerning the immediate future. Instead, the evening s wasted on the customary platitudes. There was ich small talk, some of it quite eloquent, but nobody ade the slightest effort to rise to so great an occasion. fact, nobody got to close grips with the subject.

Mr. Paul Waterhouse's paper, from which such great ngs were expected, was light and unsubstantial. Like that he writes, it was graceful and charming, but one ins it in vain for vital content. Although it bore the mulating title, "The Future of Architectural Educa- n," it did not reveal any prophetic vision. It pro- imed no policy, propounded no scheme. It dealt inly with side issues, in a spirit of nonchalance. It uck one painfully as being timorous, tentative, and vial. Timorous, because the author did not venture o the deeps, but preferred to splash about sportively the shallows; tentative, because it took no cided line; trivial, because it contained so many elevancies — such, for example, as the reference the etymology of the word "education," and h, again, as the sublimely inconsequent intro- ction of Bacon's parable of the ant, the bee, d the spider. Everybody hugely enjoyed Mr. aterhouse's very clever paper; but, like the banned tor-lights, it dazzled rather than illuminated. It did t even fulfil the obligations assumed in taking so low plane, where it might at least have been practical. ays and means were not seriously discussed. No eme for meeting the hard case of the isolated pro- cial student, or that of the able youth lacking the erewithal to pay his fees was put forward. No system co-ordinating the various architectural schools, or of operating with engineering schools and other centres technical education to ensure economy of effort, unity aim, and wider outlook, was advanced or suggested. o much stress was laid on the invincible determina- n of the Institute to keep a fast hold of architectural ication. If this is a promise of increased zeal and ivity, well and good. If it is meant to warn off any ticular body that aspires to menace monopoly it is dignified. As a matter of course, the Institute is rusted with the care of architectural education in this ntry, and it has not shirked the responsibility. If its ational machinery has been found inadequate to st-war conditions, heaven knows it is not singular in s respect. If it is at all blameworthy it is because it s been slow to react to the altered circumstances. d no one wants to dethrone it. Rather the general sire is to strengthen its hands, enlarge its capacity, end its influence, expand its vision.

While it is quite possible to assent to everything that Mr. Waterhouse said, such complacency is quite consistent with the ardent wish that he had said something else —that is to say, that he had made a very much more definite, much more positive, much less casual pronouncement with respect to the Institute's educational outlook and policy. Neither his address, nor the debate upon it, carries us a single step forward. We were merely marking time—not absolutely wasting it—for any sort of discussion may serve to scatter the seeds of progress. But one would have liked to see positive evidence, or, at least, to have received definite assurance that the Institute is not adrift in unknown seas without chart or compass or, to put the matter less grandiosely, is not building without a plan. This assurance, however, was not forthcoming, unless we are to regard Mr. Waterhouse's paper as a sketchy lay-out preliminary to the great reconstruction scheme which is understood to be in contemplation, and, of which Mr. Waterhouse dropped an obscure hint in a passing reference to the Royal Academy Schools.

There is urgent need for a national system of architectural education and training. It must be conceived in the most liberal spirit, and framed on the most democratic lines. The education authority will be eclectic in its constitution, competence to render expert aid being the credential for membership, even as ability, no matter where it may be found—whether in the polytechnic or at the university school of architecture—is the only real qualification for entrance to the profession. All roads must lead to the British Prix de Rome, though few they be that find it. And this Central or National Board of Architectural Education, which we say is the crying need of the situation, will naturally link up all the subsidiary institutions that will have a voice in its councils, whether electorally or administratively.

We are anxious to hear that this National Central Board of Architectural Education is being formed, and that the Institute is determined to deal with the subject in no pettifogging spirit. We must confess to considerable misgiving on these points. If there had been in the background a strong definite educational policy, broadly and boldly conceived, Mr. Waterhouse's paper would not have been the casual and perfunctory essay it was, nor would it have been so tamely and jejunely discussed.

As it turned out, the debate created an impression—we should be delighted to find it erroneous—that the Institute is contemplating another feeble and ineffectual "safety-first" sort of programme. If the existing council is indeed incapable of conceiving and advancing a strong and courageous forward policy of educational reconstruction, then the members should take the earliest opportunity to elect a more alert, more energetic, and a more resolute body of representatives, who, sinking all minor considerations, and brushing aside all obstructive preconceptions and prejudices, will seek, not the prevalance of any particular type of education, but the establishment on a broad and firm basis of a really national system, comprehending and satisfying all rational requirements.

J. F. McR.

Notes and Comments

Architects and Housing

ARCHITECTS have not yet impressed the entire community with a due sense of their value. Harrogate Town Council having passed a resolution that six local architects be appointed to submit designs and carry out the work required for the housing scheme, a member had the audacity to propose, at a subsequent meeting of the council, that this resolution be rescinded. He wanted the work done by the borough engineer's staff. Alderman Houfe, however, declaring that there was neither justice nor common sense in the proposal, smashed it with an amendment (which was carried by a large majority) confirming the original decision to employ architects. So far, so good; but the incident shows how very necessary it is that organised architects should assert their rights aggressively and systematically. It is plain that the public are still densely ignorant of the functions of an architect; but whose is the fault? Plainly the architect's. He should keep himself more persistently to the front in public affairs, and should make greater use of the Press in seizing occasions like that before us to instruct the public as to the services he is competent to render, and he should urge the professional organisation of which he is a member to adopt some definite and effectual scheme of propaganda work for the enlightenment of the general community, and especially of corporations that are disposed to regard the borough engineer as a jack-of-all-trades and the architect as a superfluous luxury. At Harrogate they know better; but there are other corporations that the gospel has not yet reached except as a faint rumour. The Institute should preach it to them with faith and power.

University Honour for an Architect

Mr. Thomas Hardy is not the only architect upon whom an honorary degree has recently been conferred. At the opening by Lord Bryce of the new building of the Faculty of Arts for the Victoria University, Manchester, the architect of the building, Mr. Percy Scott Worthington, M.A., F.R.I.B.A., received the degree of Litt.D.

Church Design

The article on "How to Modernise Church Design," which appeared in our issue of January 21, has caught the eye of a writer in the "Methodist Times" of February 12. He does not like the article, though he admires the journal. He very amiably coats with jam the pill he administers to us. Quoth he, the article in question "is based on a conception which one hardly expects to find in a high-class publication, which, to judge from its other articles, seeks to express the beautiful and true. Some have to do with things that are intended to be useful, but others are expressions of beauty for beauty's sake. And yet"—alas! the jam is exhausted: now for the bitter pill—"the writer appears to regard churches only from the standpoints of utility and comfort." We think our contributor would plead guilty to this awful indictment—not as a general charge against his personal piety, but as a tolerably accurate estimate of his object in writing the article. He wrote it as an architect, whose professional functions include a due regard for utility and comfort, as well as for beauty and truth. Nor was he writing dogmatically, in the manner, say, of a Wesleyan preacher, but only suggestively: modestly withal, for he expressly declares, with respect to picture palaces and music halls, that, "To what degree the churches can hope, or even desire, to rival these cheerfully pagan institutions, is a theme outside the range of an architect . . . but an architect may be forgiven for wondering whether, if such rivalry can be supposed to exist, the churches do not avoidably handicap themselves in the race, and whether architects may not be in some measure to blame as accessories before the fact." That is the head and front of his offending. Is it possible that the writer in our religious contemporary is, like Katisha, "a teeny-weeny bit bloodthirsty"?

Concerning "Side Aisles"

So rarely do we receive anonymous communications that we cannot resist the temptation to share the joy of this one: "It is surprising to find a presumably educated journal talk of side aisles, like the 'Architects' Journal' at the bottom of p. 206 to-day. However, the New Journalese probably talks of a white albino or a black negro. It is a sluttish age." Agreed. And our correspondent's syntax and his failure to make sure of his ground exemplify the prevalence of sluttishness. "Side aisles" is a good expression because there are other aisles; and "side" has not the same relation to "aisles" as "white" has to "albino." We are always glad to receive criticism, but we prefer that it should be neither captious nor anonymous.

National Gallery Acquisitions

Three new pictures are now to be seen in the National Gallery. One is a full-length portrait of the third Marquis of Hamilton, by Daniel Mytens, which has been presented by Mr. Colin Agnew and Mr. C. Romer Williams; another is a small Dutch panel of the early sixteenth century, "Lot and his Daughters"; and the third is Fra Filippo Lippi's "Virgin and Child," which was recently on view at the Burlington Fine Arts Club and has been presented to the nation by Lord Brownlow. It is, of course, the Lippi that is infinitely the most interesting of the three pictures. The National Gallery has long housed his "Vision of St. Bernard," and a picture of "The Virgin and Infant with an Angel," which is ascribed to him with less confidence. A close comparison of it with the new acquisition should help to settle the question. Lippo Lippi (1412–1469) had a rather romantic career, as the many legends about him indicate, even though they are not all true. Dedicated to the service of the Church when he was only eight years old, he was placed in a convent in Florence, which eventually he quitted to go on travels that, so the legend runs, got his capture and enslavement by Barbary pirates, who released him in admiration for his skill in portrait painting. Another refers to his carrying off and marrying a nun, who was allowed to sit to him for a picture of the Virgin. The lady, it is said, eventually poisoned him. He was, for his time, a great humanist, as well as a fine colourist and a draughtsman of high technical accomplishment.

The Kalendar and the Year Book

During the past week, the Institute Kalendar and the Society Year Book each made a welcome re-appearance. Their almost simultaneous arrival, however, lends point to the question whether both are necessary. It is a question that most architects will answer in the negative. To produce two annuals of almost identical character where one ought to suffice may be good business for the printing industries, but otherwise it represents, not only in itself, but in what it implies, a deplorable waste of money and effort. It is only one instance among many of the uneconomy of running two organisations where one should suffice. Not that the saving on this particular item would amount to much; for the combined annuals would be about twice as big. Incorporation of the Society's list of members would add some

rteen hundred names to the Institute's muster-roll; d very few architects believe that this consummation n be long delayed. There is no valid reason why it ould be, and there are a hundred and one reasons why should not. Either of two chief objects would be ple justification for the coalition. Registration awaits and without it the great new schemes for professional ucation which have been hitherto so ingeniously nouflaged cannot be made as completely successful as should all like to see them.

White Lead Substitutes

Architects are asking what is the matter with white d? They complain that painters are not getting the e effects that were possible before the war, and that comparative failure is attributed by the painter to poor quality of the white-lead base. It is alleged o that, in Hosea Biglow's phrase, "Gov'mint's got answer for it," having made lead so exceedingly rce that very little of it has been as yet available as ainter's material. Substitutes other than zinc-white d zinc also is scarce) have as yet to win their way. rely chemical science, which has wrought such won- rful achievements in so many directions, is equal to s comparatively simple task. A cheap and really cient substitute for white lead would revolutionise painting craft. But it must be non-poisonous.

The British School at Rome

Jealousy being out of the question in a liberal profes- n like architecture, we see no reason to withhold our rty congratulations from the Liverpool University hool of Architecture on its splendid record at the afton Galleries. Of the five architectural designs for urts of Justice selected from a total of nine for the al competition for the Henry Jarvis Studentship in chitecture tenable at the British School at Rome, five re from Liverpool; whence comes also a former winner the Rome prize, Mr. H. Chalton Bradshaw, whose fine wings made during the tenure of his scholarship, and w exhibited at the Grafton, have evoked unstinted miration. This year's show at the Grafton is cer- nly a triumph for Liverpool, and rival schools will nerously applaud the extraordinary achievement of so ing a school.

Applied Art

Sir Frank Baines has knocked over the hive and ought the bees about his ears. Speaking at a con- ence of manufacturers and finishers of house fur- hings at the Ideal Homes Exhibition, Sir Frank was y frank indeed on the subject of the æsthetic short- ings of manufacturers. The present condition of ustrial art, he said, was chaotic, and there seemed e no desire to improve it. Manufacturers' catalogues described as "containing some of the most atrocious igns it was possible to produce." Of course, the nufacturers present at the conference did not like s plain speaking. They said, in response, that they ere bound hand and foot by the demands of the lic," and another delegate put in the plea that the nufacturers were far too busy with labour troubles l other matters to be able to educate the public. To ertain extent we must agree with Sir Frank, whose demnation of the catalogues, however, was too eping. As principal architect of H.M. Office of rks, he must receive catalogues of all degrees of it or demerit, and he would have strengthened his e if he had mentioned that occasionally he receives a alogue containing, if we may paraphrase his con- nation, some of the most beautiful designs it is pos- e to produce. These, it is true, are rare. Certainly re is room for improvement in industrial design, and trust that Sir Frank's outspoken criticisms will be en to heart by manufacturers, who should not take er behind the ignorance of the public.

Commercial Buildings

Soon commercial building will be in full swing. What is to be the future style of large-office blocks? One imagines them as great astylar buildings formed of hard stone having a marble-like surface. Their windows will be of human size, and not mere gaps in the wall. To and from halls decorated with marble, or showing frescoes of contemporary life, crowds of delighted purchasers will have their exits and their entrances through well-designed and elaborately ornamental doorways. Artists like Frank Brangwyn and Gilbert Bayes would not disdain to embellish a commercial palace of architectural design. They would bring art to uses from which it has been too long kept separate, and incidentally they would found a great new school of mural decoration. We do not despair of such developments.

Economic Building

As a result of the scarcity of materials and labour, the housebreaker has been put under restraint. Where rebuilding is necessary, it is now a common practice to gut the interior of the doomed premises, but to leave the old walls standing. This proceeding has been observed in several parts of London—in Soho, in the Borough, in Finsbury, and elsewhere. Looked at from the constructional, and perhaps from the hygienic point of view, this practice may have its drawbacks, but it is certainly doing much to restrain ill-considered ambition, and is thereby preserving for us a few façades of distinctive architectural value, besides rendering possible an immediate start with the work. No doubt every precaution is being taken to ascertain that in every instance the old walls are sound enough to withstand the rather severe ordeal. They must be more sturdy than those of the houses described by the clerk to the U.D.C. in giving evidence before the Court of Inquiry into the wages and conditions of labour among the transport labourers. Some of the dockers' houses, he said, "were leaning against each other. If they did not lean on one another they would fall. . . . It was a case of 'united we stand, divided we fall.'"

Housing Finance

Perusal of the official report, just issued, of the meeting, on February 13, between the Prime Minister and fifty representatives of local authorities, does not inspire confidence that the housing question is being firmly handled by the Government, or that the local authorities to whom the Government is so anxious to transfer the financial responsibility are prepared to shoulder or able to bear that burden. Soon we shall be wanting a million houses, and how far we have got towards their provision may be roughly estimated from this passage in the Prime Minister's speech to the representatives of local authorities: "Municipalities must cease to look to the central Government to take the whole of the responsibility, and get back to the old normal conditions. He appealed to them to take the responsibility of financing the schemes for housing. An appeal should be made to local patriotism for the purpose of solving this problem, and the Government asked the municipalities simultaneously to initiate a campaign in their cities and towns for the purpose of raising funds for solving the housing problem in their own areas." That does not take us very far, and after this astounding confession of failure on the part of the Government, who can feel sanguine that the local authorities may be trusted to bring the work to a successful issue? Nevertheless, the present attitude of the Government is a return to sanity. No Government should load itself with executive and administrative duties. Its functions should be almost purely legislative. But, with respect to housing, decentralisation comes a little suddenly and very late; not too late, we trust, to be effectual. Local authorities will gather in the funds all the sooner if they show themselves in earnest by getting on with the work at once.

Architectural Causerie: On Roads

MOST certainly tradition dies hard, if at all, whether we seek its spirit in the latest expression of street building, in the survival of the glass bottle in the windows of high-class pastrycooks, or in the taste of books displayed by our friends and acquaintances. Those who think reasonably attach considerable importance to the value of tradtion. In fact, even the careless cannot escape the effectual influence of precedent. And certainly among the most pleasant of hobbies that have survived from the days of our pompous ancestors is that pertaining to the collecting and study of old books. Wherever we go, town or country, we chance upon the modest libraries of our friends; for, if the truth be known, we British are born antiquaries; hence, the reverence of the average man for things historical. In this we can discern the Englishman's taste for escritoire bookcases in mahogany, his desire to equip his study with ranges of open shelving dado height, and, in the case of architects, their fondness for the storeroom in Conduit Street. What fellow worthy of the name of reader would descend to the level of ordering mirror doors to his bookcase in order to conceal the quarto volumes in leather and calf which are the delight of his long evenings.

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Some there are who have sworn allegiance to the Prolusiones Architectanicæ; others prefer books on topography, guides to old-fashioned watering-places and cathedral cities, descriptions of old-time trades, crafts, customs, and travel. To-day there is scarcely an architect's office that does not possess a representative selection of works bearing upon the scientific art of building; for the architect, like the lawyer, is beginning to appreciate authoritative advice coming straight from the great ones who have gone before. There are a number of famous road-books that should form part of every collection, the chief among them including "Britannia Depicta," Paterson's "Roads," Cary's "Itinerary," Mogg's "Guide," and Leigh's "Irish Roads." Much can be gleaned from these faded volumes, for they were the Bradshaws of the coaching era, and were eagerly perused by the dutiful lieges of the four noble Georges. How wearisome a task it must have been for the surveyors, who pushed measuring-wheels in front of them on the trunk roads. Possibly the hobby-horse suggested itself to the mind of a particularly lazy compiler of measurements, as offering a more expeditious method of covering the ground, and we of a later day are indebted to this weary unknown for fathering the velocipede. Many an old measuring-wheel of hickory, lightly shod with iron, the pride of an expert wheelwright, was pushed into the lumber-room when the iron road from Euston Square took the Chilterns on its way to Birmingham.

* * * *

"Britannia Depicta, or Ogilby Improved," is the most interesting of the series, for it is the doyen among road-books. Thomas Bowles, "Print and Map Seller, next ye Chapter House in St. Paul's Churchyard," could hardly deal with the clients who desired copies when it first appeared in 1720, so he contracted with one Emanuel Bowen, engraver, "next ye King of Spain in St. Katherine's," to sell copies. This same Emanuel drew the imaginative title-page, showing all the imagery and pageantry of travel. What a delight to jaded eyes are the masks and cartouches, symbols of towns, birds signifying distance, a diminutive Puck, with a pair of dividers in one hand, riding a globe, curious and fantastically repellent caricatures of Hermes, the messenger and guardian of the ways, and chimerical monsters calculated to bring home to the traveller the trials and difficulties of the King's Highway. Small wonder travellers made their wills prior to a journey between London and York. The editor responsible for this dainty work, Master Owen, gentleman, of the Middle Temple, had just reason for his rider to the preliminary description: "The whole for its Compendious Variety and Exactness, preferable to all other books of Roads hitherto Published or Proposed; and calculated not only for the direction of the Traveller [as they are], but the general use of the Gentleman and Tradesman." Architects look upon this book very favourably. We are duly impressed with its minute and exquisitely rendered lettering; we have respect for its historical accuracy, and regard it as recording the alterations made to the Roman highways and the state of the pack-horse tracks at the close of the seventeenth century. For fifty years Ogilby's labours were appreciated by frequenters of the roads, and the book was sufficiently popular in 1770, when Robert Adam journeyed down to his country houses, to ensure the printing of a revised edition.

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The military mind, however, was busy with the problem of an efficient and up-to-date road-book, and few travellers used the well-thumbed Ogilby, the chief volume to be found in the inns of the day, when Lieutenant-Colonel Paterson, Assistant-Quartermaster General of His Majesty's Forces, published, in 1771, "A new and accurate description of all the Direct and Principal Cross Roads in England and Wales." Paterson's book bears the military stamp. It is a paragon of precision and efficiency. The first volume only ran to 154 pages, but in the 1803 edition we can count 840 pages, such was the increased volume of horse-drawn traffic on the roads, due without question to the benefit of Palmer's system of mailcoaches and the wisdom of Pitt.

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The architects of George the Third's reign made every use of the new road-book when estimating their charges for travelling to inspect works in hand, and they must have felt highly pleased to trace the names of buildings of their own invention both in the index and near the description of each important road; for the wily Paterson did not omit "an account of Noblemen's and Gentlemen's Seats and other remarkable objects near the roads and an Index to the Country Seats." It is a matter for speculation whether or not some enthusiasts carried a copy of the book with them on the top of the stage coach in order to verify the identity of the miniature palaces and quasi-Ionic temples passed at eight miles an hour. Many, to use the quaint phraseology of the period, preferred to consult the "Lobster at the helm."

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Robert Adam was sufficiently Scotch to have a copy of Paterson in his office, and, possibly, his charge of fifteen guineas for chaisehire when he made his three visits to Hertford to look after the town-hall, was based on the table of charges for posting, included at the end of the book. Bonomi, the Italian who for a time assisted Robert Adam, evidently watched his employer closely not so much for design, but in order to follow his business methods. Bonomi had experienced the annoyance expressed by certain clients when they were faced with accounts for travelling expenses, so he prepared a large printed notice of charges, to be placed on the walls of his office at No. 76, Great Tichfield Street, in 1794, with special reference to travelling: "All the journeys to and from to be paid for at the rate of eighteenpence per mile." When questioned by a brother artist as to his reason for this blatant practice, the artful Italian replied, "I do not understand the English."

AERO.

Modern American Architecture. 2.—House at Stamford, Conn., U.S.A.

Aymar Embury II., Architect

Fireplace and China Cupboard in Dining-room.

Entrance Hall.

These are typical American interiors reflecting the simplicity and refinement which in the States have come as a reaction against the extravagance and vulgarity that were sometime rampant there. In the dining-room, the circular-headed door to the china cupboard is a great relief from the general straightness of the lines; and this effect is repeated in the hall.

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The British School at Rome Exhibition

THE exhibition of works submitted in the open examinations for the Rome Scholarships in Architecture, Sculpture, Decorative Painting, and Engraving, and for the Henry Jarvis ;tudentship in Architecture, together with examples of ;orks executed by Scholars of the British School at ;ome, is now being held at the Grafton Galleries.

Since the British School at Rome was reorganised and ncorporated by Royal Charter in 1912, the Scholarships ave been awarded twice, in 1913 and 1914. This is the rst year since the war in which competitions have been eld.

The British School has now settled down in its new uarters in the Valle Giulia, and the scholars while in esidence enjoy the comradeship, under the happiest onditions, of the French and American Academies. 'he value of the Scholarships has been increased to 250 per annum, and the age limit, for this competition nly, raised to thirty-five.

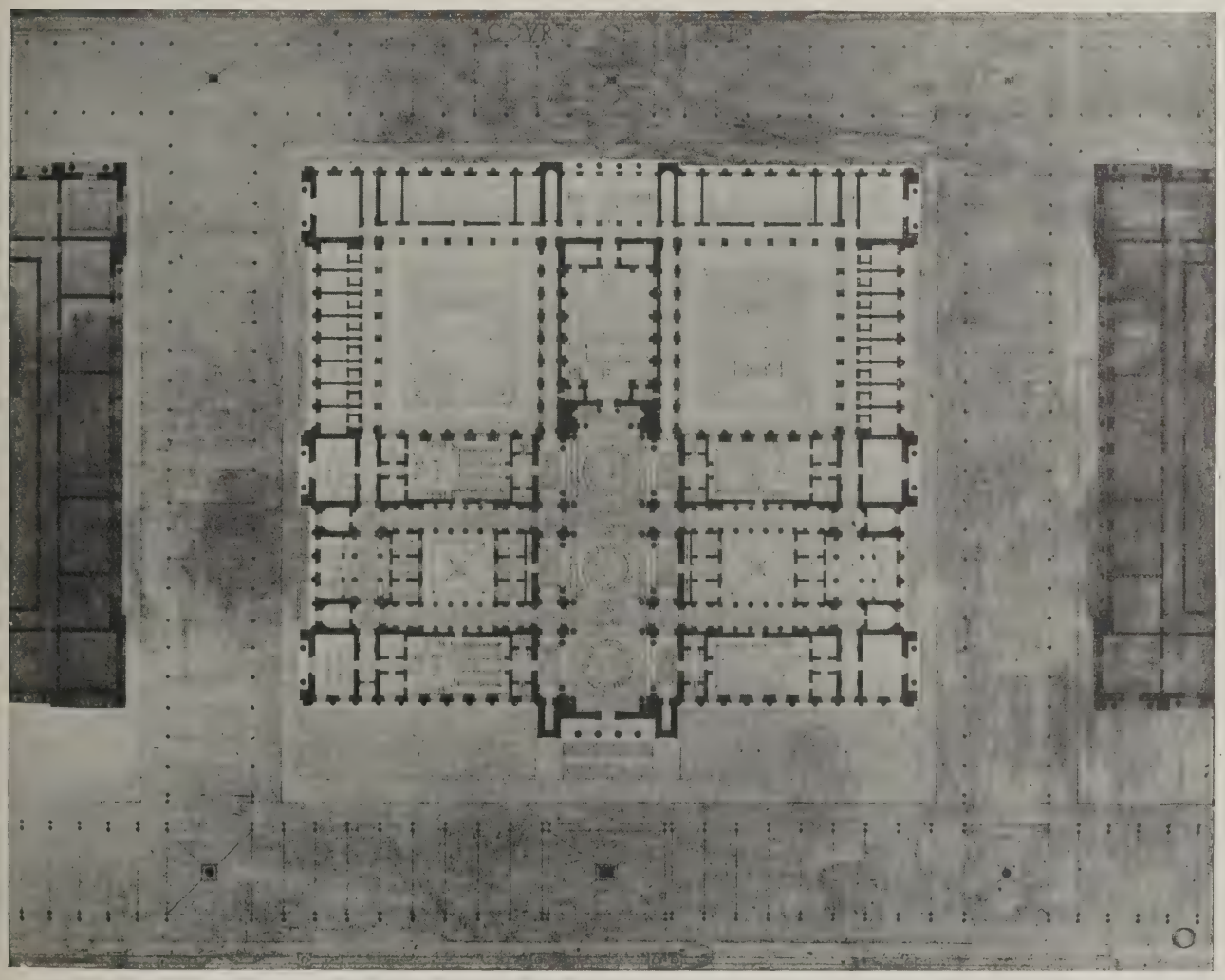
The Faculties who are assessors in the competitions re identified with no special school, but are representa- ve of their respective arts. The competitive works xhibited are those submitted for admission to the final ound for each Scholarship, and the selections made are ardly likely to be called in question.

The first room contains the sculpture. Mr. Gilbert edward (Rome Scholar, 1913) shows a life-size female gure and a design for an historical frieze executed for ie Imperial War Museum. Mr. C. S. Jagger (Rome cholar, 1914) also has a frieze done for the same body. 'here are only three competitors this year, Messrs. A. F. Hardiman, C. W. Dyson-Smith, and Alexander Styles, all of whom have been admitted to the final round. The standard attained compares unfavourably with that reached by those entering for the Scholarships in Painting and Architecture.

The second room is devoted to Decorative Painting. Mr. Colin Gill (Rome Scholar, 1913) is represented by "Heavy Artillery," lent by the Imperial War Museum. This picture is unfortunately very badly hung, and only those who saw it in the Royal Academy will be able to form a reasonable estimate of its merits. There are seventeen competitors, nine of them women. Of these competitors four have been selected for the final round, Messrs. J. Wilkie, G. C. L. Underwood, T. Outlaw, and Miss W. M. Knights, all of whom are Slade students. The standard of the work submitted is very high, except in the case of Nos. 16, 17, and 19; and it is interesting to note that two who were chosen for the final in 1913 and 1914 have this year failed to gain a place. We like the work of Miss Knights; she has a keen sense of composition both in colour and in form. The work of Mr. Underwood is familiar to us, and we think that he was better represented by his paintings for the Imperial War Museum.

In the third room are selections from the works of the Rome Scholars in Architecture for 1913 and 1914, and the Jarvis Student for 1913, and also the competitive works for the Scholarship in Engraving.

Mr. H. Chalton Bradshaw (Rome Scholar, 1913) shows measured drawings from fragments of the antique, a



ROME SCHOLARSHIP COMPETITION: PLAN OF DESIGN BY D. W. THOMAS, SELECTED FOR FINAL COMPETITION.

study of the Villa di Papa Giulio III., by Vignola, a restoration of an Etruscan Temple at Falerii (Civitacastellana), a large plan of the centre of Rome at the time of Constantine, and a series of eight drawings illustrating a restoration of the town of Praeneste.

Praeneste (the modern Palestrina) is situated in a remarkable position on the slope of a mountain twenty-three miles from Rome, and owed its fame in antiquity to the great Temple of Fortune which existed there. Under Sulla the Sanctuary was rebuilt and extended, so that with its colonnades, broad flights of steps, hemi-cycles, and other buildings, it occupied practically the whole of the site of the older town, and rose in a series of terraces up the slope of the mountain. The subject has attracted many architects from Sangallo onwards. Of late years much that is new has been brought to light in excavation. This is embodied in the present restoration. We shall accordingly look forward to the publication of these drawings, together with the report which we understand is to accompany them.

Mr. P. D. Hepworth (Rome Scholar, 1914) has, in conjunction with Mr. L. de Soissons (Jarvis Student, 1913), measured and drawn several Genoese palaces. There are also drawings by Mr. de Soissons done at the Ecole des Beaux-Arts. Two have received a "première seconde Médaille." His plan of a château and gardens is an excellent work, well presented and cleverly rendered.

We have to confess to some feeling of disappointment at the entry for the Scholarship in Engraving. It must have been difficult to make the selection for the final. Two out of the five competitors have been chosen, and Mr. W. A. Narbeth's pencil drawings and Mr. J. Nixon's semi-architectural subjects are perhaps the most interesting.

The fourth room contains water-colours by Messrs. Bradshaw and de Soissons, and also the competitive designs for the Scholarship in Architecture.

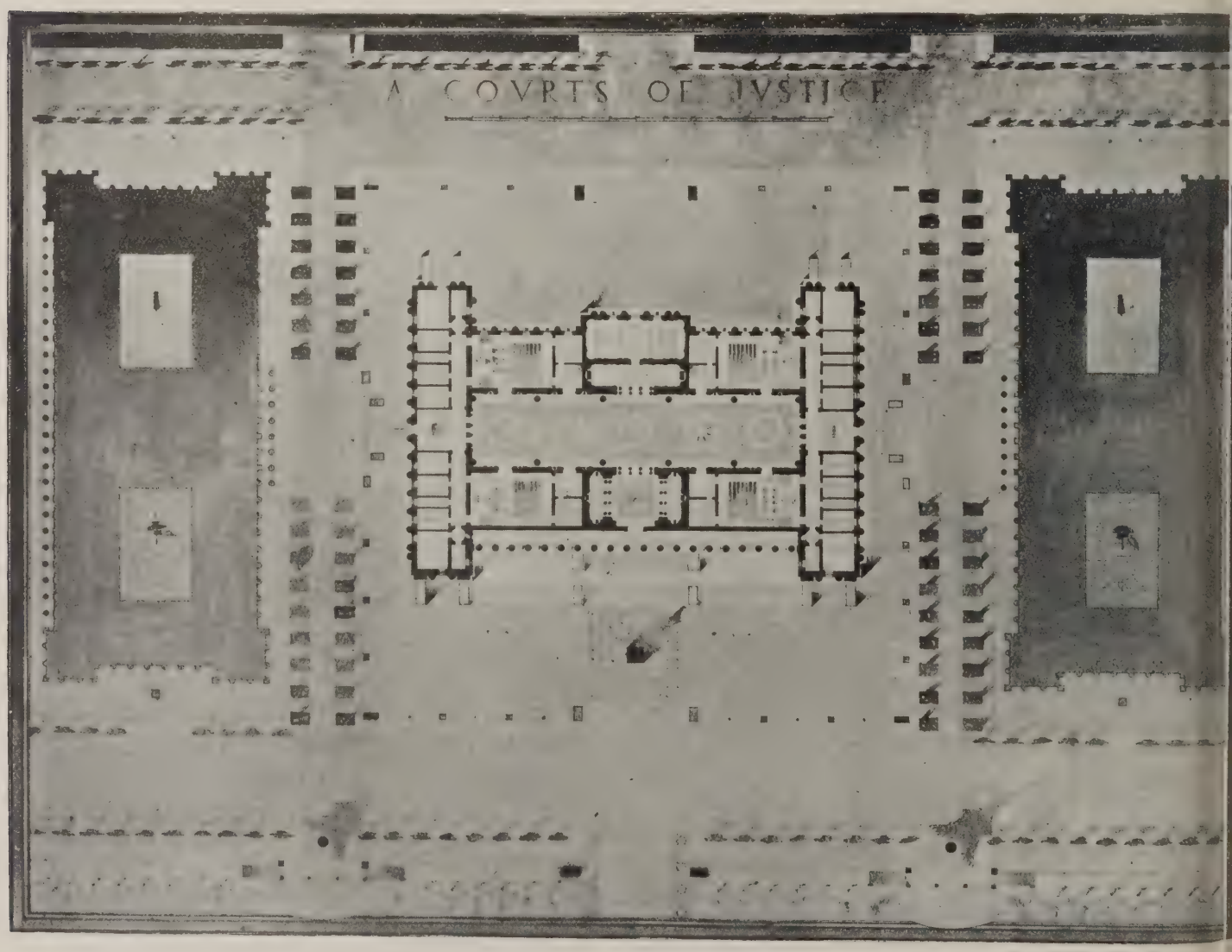
There is a marked difference in the style of the water colour, but considerable architectural interest in both sets, which include sketches done in Florence, Siena, Rome, and Sicily.

For the Scholarship in Architecture there are nine competitors. The subject set was "Courts of Justice," and the number of sheets required was considerable. Some of the competitors have gone in for unnecessarily large drawings. On the whole, the colouring is poor, the best drawings being rendered in monotone. Otherwise the standard is fairly high. Five have won a place in the Final, Messrs. E. R. Arthur, W. Dougill, A. Koerner, F. O. Lawrence, and D. W. Thomas. Of these, three are Liverpool students.

Mr. Arthur has a clear and well-executed set of drawings. The absence of internal courtyards is a feature of his plan, which is simple and efficient. The Great Hall is modelled on the Basilica of Constantine. For the exterior he uses a large scale Corinthian order.

Mr. Dougill has a similar scheme, but his Great Hall is on the transverse axis, involving courtyards. The minor accommodation is carefully worked out.

Mr. Koerner's design carries with it the hallmark of the Beaux-Arts, both in conception and execution. The



ROME SCHOLARSHIP COMPETITION: PLAN OF DESIGN BY E. R. ARTHUR (LIVERPOOL UNIVERSITY), SELECTED FOR FINAL COMPETITION.

Architectural Designs. 1.—Courts of Justice. (Rome Scholarship Competition)

By E. R. Arthur (Liverpool University)

The above design is one of five selected for the final competition for the architectural scholarship of the British School at Rome. The drawing is one of a clear and well-executed set. The plan is reproduced on the opposite page. Mr. Arthur has modelled his Great Hall on the Basilica of Constantine, and for his exterior uses a large-scale Corinthian order.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

neans of access from the main entrance and the Great Hall to the courts are excellent; the library is well placed, and separate entrances are provided for the Court officials. The sections are well worked out, but he elevation is less satisfactory.

Mr. Lawrence's work is not as mature as that of the hree mentioned above. His plan involves four enclosed ourtyards, and its over-elaboration could only be ustified by a more expert solution. His detail is heavy vithout being impressive. The attic is enormous and he columns are stumpy. He, however, shows considerable resource in the arrangement of Neo-Classic motives. Mr. Thomas has a reasonable plan, and his courtyards have the advantage of being spacious. The composition s fair, although unresolved in its detail.

There is not much to be said of the other designs. No. 37 has enormous drawings. His plan carries symmetry to excess, and forms a geometrical pattern rather than a proper solution to the problem. As the flanking buildings, worked out in detail, are identical in plan, we presume they must be intended to serve identical purposes. No. 36's plan is the most interesting part of his scheme, but his drawings fail by comparison with those selected. The dome is over-powering and unnecessary both for the building and the composition. With regard to No. 38, we are doubtful whether his building is a good expression of its purpose. No. 40 obviously fails in his plan, which is almost circular, a type which would require far more study that he has given to it.

(Further illustrations will be given next week.)

The Planning Process

By Major H. BARNES, M.P., F.R.I.B.A.

PLANNING involves thought and arrangement. It eliminates, or should do so, what is arbitrary and accidental. It is of the essence of it to exclude the haphazard and the unconsidered. n a sense it bars our freedom. When you have made a plan you are to some extent its subject. You are bound by it. You must follow it. All you do afterwards will be determined by it.

It is, perhaps, to these reasons that we owe what we call bad planning. It is not certain whether sometimes such planning is not deliberate—whether it is not something more than indolence and indifference. It is not in our nature to love to be bound. One likes to change one's mind and be free to do so if one desires. The trouble of a good plan is that it limits this freedom. When your plan is made, if it is well made, you have taken into account everything and provided for it, or rather you think that you have taken everything into account; but, alas, omniscience is not a quality of the human, but of the Divine, and just when we think our labours are completed some fact emerges which we had not taken into account—some stage in the process which we have omitted—and then our plan has to be altered, twisted, and distorted to make room for this late and intrusive comer. One sometimes thinks that a very few simple formulas might be found to contain the explanation of most things. The eternal clash between order and freedom is one of them—the friction between the things that are planned and the things that will not be planned. There is, it would seem, a real antagonism between Classic and Gothic methods. The meticulous refinement of the Greek and the comparatively rough-and-ready method of the Goth are the expression of this. The idea of a city planned with regular radiating avenues from well-defined foci is the antipodes of the winding, twisting, assertive individuality of a mediæval town. So the struggle goes on, and it is not without some regret that one is driven to admit that in the long run order has a tendency to prevail over freedom. The advantages of the one are real, of the other ideal, and at least at present these are days of realism. So the importance of planning tends to become more and more clearly established and that importance ought to be insisted upon by all who are concerned with what is called efficiency and economy—two excellent words, though perhaps less attractive than others that are less frequently used.

Planning, like all other things, takes place in space and follows the order of time. When materialised it exhibits the sequence of the various processes which make up human activity. To those who are beginning to study the science of building with a view to engaging in the practice of its art, it cannot be too strongly said that the builder's business is not to restrict for human activities the sphere in which they are engaged, but to increase the facilities required for them by protecting them from climatic restrictions and by directing the routes along which these activities are to proceed. Put shortly, the building follows the process, not the process the building. That is true not only in theory but in fact, and the slightest historical understanding of any social activity will soon reveal the fact that developments in its corresponding architecture arise out of prior developments in the actions to be accommodated. The writer was once told by a pupil of the late Lord Russell of Killowen that a favourite remark of his was that "All things happen in order of time," and, on that, insisting that all papers put before him should be put before him in that order. That is as true of the actions which, taken together, form a process of manufacture, distribution, or exchange as of those actions which lead men into the contention and dispute of the Courts. No man can plan well if he does not understand in its completeness the purpose for which he is planning, and no man can understand any process until he has realised the sequence of all its stages; the order in which they come, the actions which open it, which continue it, and which bring it to an end.

During recent years America has furnished us with a School of Business experts who have travelled round our country instructing manufacturers and others in the organisation and development of their business. Their first attention is always paid to the buildings in which the businesses are carried on, and consideration is given to the arrangements provided for its operations. If it be a process of manufacture, no matter what that process may be, it will, on examination, soon be found to consist of an invariable and unbroken series of operations by which raw material is converted into manufactured articles. There will be, first of all, the receipt of the raw material, and finally the despatch of the finished goods. Between those two points all the stages of the process appear. If there is to be efficiency, if there is to be economy, it is essential that there shall not be delay. Delay will follow on confusion or upon unnecessary transport of the material from one stage to another. If material has to travel one hundred yards where a little consideration in the arrangement of the building might have reduced the journey to five yards, the result will be to add to the cost. If the material has to be handled twice when it might have been handled only once, that will add to the cost. If disconnected processes are carried on in spaces which overlap, confusion will result, and that will add to the cost. The moral of all this is that to plan well one must first study the purpose for which one is planning; and, having done that, keep steadily in one's mind the intention to secure for those for whom one plans the possibility of carrying on their purpose with the maximum of speed and the minimum of energy. The Chicago ideal by which the pig going in at one end of

the machine comes out in sausage at the other is a homely illustration of the result of good planning.

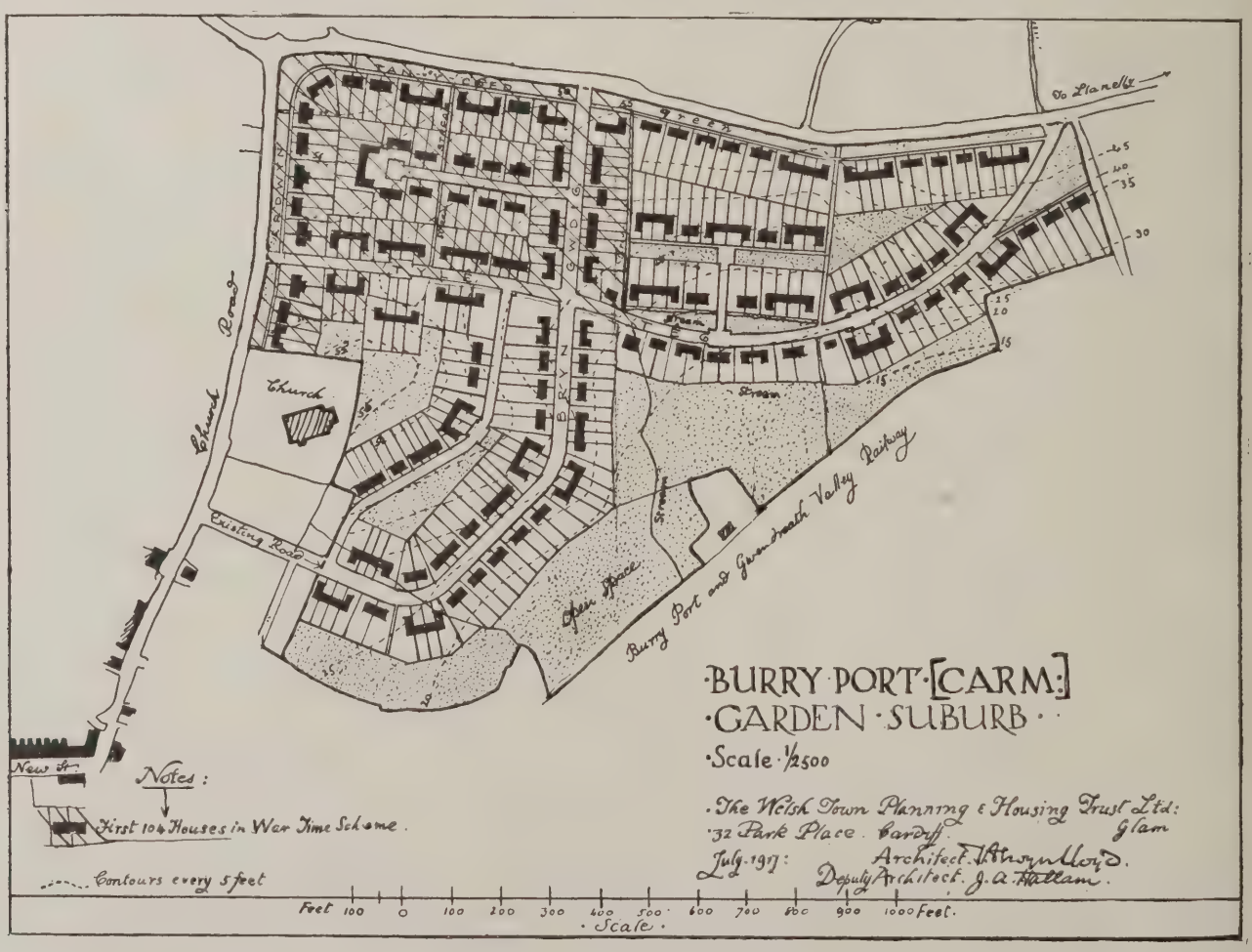
This consideration of process is not to be confined to the study of manufacturing and industrial pursuits. It is not simply in the shipyard or the factory that planning must follow process. There are no human activities into which order and routine may not with advantage be introduced—industrial, commercial, educational, and domestic. At the present moment we are giving a great deal of attention to the provision of buildings for domestic purposes for a large section of the population. No more fascinating work on the relationship of good planning to domestic economy does the writer know than Professor Kerr's "The Gentleman's House." Years have passed since he read it. What remains most in mind is the stress he lays upon what he calls the "routes" that have to be provided for in a well-appointed house—the family route, the servants' route, the route of the guests, the children's route; all to be considered and provided for, so that each may enjoy the privacy and exclusiveness that are required. His theories are, of course, applied on the grand scale. There is no consideration of cost. For every purpose there is a separate room or suite of rooms provided, and the result is as nearly perfection as can be secured.

In studying some of the many plans recently prepared for the housing of the working classes one has doubted whether much study has been given and much knowledge acquired of the processes that go on inside a working-class home. All the demands are there that exist in those more fortunate families for whom Professor Kerr wrote. There is the same family life to provide for. True, there are no servants; but service has to be given, and the conditions under which it is to be performed are of the same importance—perhaps of more importance. The children are there; they have their pursuits, their work, their play. What scope is to be given for these? Guests may come, if not to stay, yet for some little while to be there; for these there must be entertainment in some space that shall not be crowded with household gear. Whatever advances may be made in construction and in the use of material, these are secondary to a complete and sympathetic understanding of working-class life. We hear to-day everywhere of minimum standards. There is a minimum standard of comfort under which alone can be secured what is demanded to-day, and this standard can only be laid down by those who have, by patience and observation, acquired a real and true knowledge of the requirements of that domestic life for which we are called upon to-day to provide accommodation on a scale hitherto unknown in this country.

Burry Port Garden Suburb

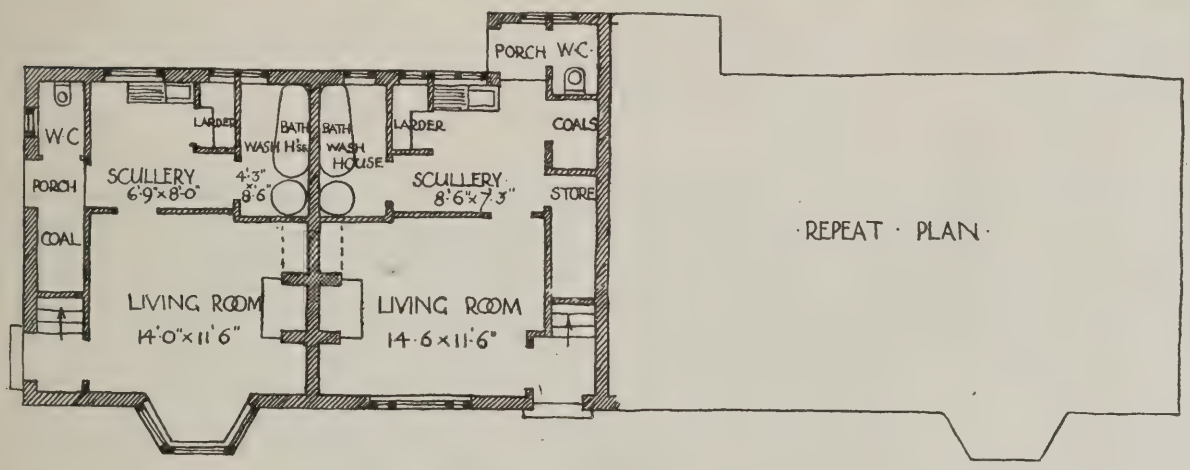
THIS scheme (see plan below and plate opposite) was originally intended to provide housing accommodation for munition workers at H.M. Factory, Pembrey. The present tenants, however, include other classes of workers, such as colliers, iron and tinplate workers, and railwaymen. The first 104 houses were begun in the autumn of 1917 and are now nearing completion. The layout plan provides for a total of 300 houses, the balance of which are to be built under the present Government scheme. A portion of the estate, which is low-lying and unsuitable for building, will be used as a recreation ground. The materials used in construction are 11 in. cavity walls, covered with cement rendering and colour-washed, sash windows, and Welsh slate roofs. The design of the cottages was kept as simple as possible, low-pitched roofs and straight eaves being characteristic. Variety has been obtained in the grouping of the houses by setting back building lines and providing at intervals quadrangle groups and open greens. It is expected that the finished building cost of the houses will average about £550 each.

The houses were designed by Mr. T. Alwyn Lloyd, L.R.I.B.A., M.T.P.I., architect to the Welsh Town-Planning and Housing Trust, Ltd., Cardiff, assisted by Mr. J. A. Hallam, M.T.P.I.

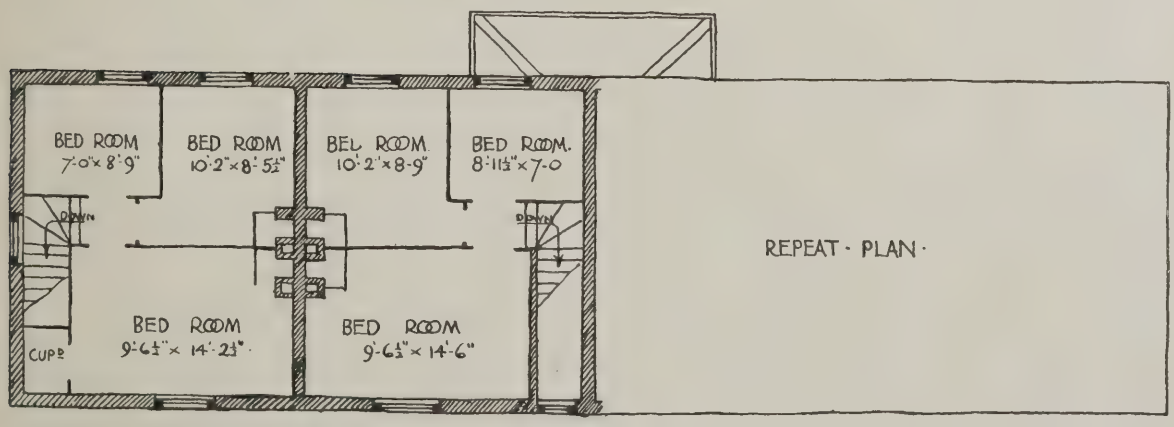


Modern Domestic Architecture. 1.—Cottages at Burry Port Garden Suburb, Carmarthenshire, built for the Welsh Town Planning and Housing Trust, Ltd.

T. Alwyn Lloyd, Licentiate R.I.B.A., Architect. J. A. Hallam, Deputy Architect



GROUND FLOOR PLAN



CHAMBER PLAN

In these cottages, which were originally intended to provide accommodation for munition workers, 11-inch cavity walls are covered with cement rendering and colour-washed, and the roofs are covered with Welsh slates. The design was kept as simple as possible, with low-pitched roofs and straight eaves. Variety is got by grouping into quadrangles and by setting back the building line at certain intervals.

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The Future of Architectural Education*

By PAUL WATERHOUSE, M.A.Oxon., F.S.A., F.R.I.B.A.

THERE is very little profit in defining education. However one defines it one ultimately comes up against the word "interest," of which no definition is possible. The process of teaching is merely that of shortening the process of absorption by the pupil in two ways—first, by placing the facts to be absorbed within easy reach of the pupil; and, secondly, by stimulating his appetite for the facts. This stimulation can be effected by prizes, by the rod, by competition, or by simple personal appeal; but in every case the ultimate form which the appetite takes is interest. The word describes the most mysterious of human faculties, the very mainspring of mental life. The teaching of art differs from the teaching of science. Architecture is a science and an art. It therefore demands teaching of the two kinds. Some people aver that one cannot teach an art, others that the teaching of art is solely a matter of elicitation. The difference between the teaching of art and the teaching of science simply lies in this—that in teaching a science you lay before the pupil facts which he is to store and use for himself as facts, whereas in teaching art you lay facts before the pupil, which he is to digest and to reproduce in his own form.

It will be of interest to review the course of architectural education in the past half-century. Before 1882 men entered the profession solely through the medium of pupilage; or, rather, before that date pupilage was the only accredited test of a man's having been educated as an architect. Many hard things have been said about pupilage as a means of education, and many of these hard things have been deserved; but there were scores, perhaps hundreds, of honest artists who gave to the young men under their charge careful training, good advice, valuable experience, and a start in life. But the Institute saw that education in architecture must not be left to the haphazard whim of the collectors of premiums. It determined to establish the test of examinations. They invited candidates to a voluntary examination, and to this succeeded in 1882 the obligatory examination, without passing which no aspirant was admitted to the Associateship. What the establishment of that obligatory test has meant to the present generation of elder architects it is difficult to say: one thing it certainly initiated—a race of architectural teachers. In other words, systematised architectural education began, if not to walk, at least to toddle. In its charter of 1887 the Institute took powers for increasing its examination system by establishing the progressive tests known as the Preliminary, Intermediate, and Final Examinations.

The R.I.B.A. in this did a very fine and disinterested thing. It was foreseeing, too, and far-seeing. It laid down the framework of a structure which was in a short while to exceed even its designers' expectations. One might change the metaphor and say that it became the mother of a child who was in thirty years to be old enough and strong enough to forget and rather despise his parent. The Institute set out to "obtain for all those entering the profession a systematic course of education," to be "tested by progressive examinations," the passing of which "should form the primary qualification for admission to its class of Associates." Though the Institute may feel bashful about praising the Institute, no modesty need prevent a generation from acknowledging what it owes to the generation behind it.

The Progressive Examinations consist of the Preliminary, the Intermediate, and the Final. The Preliminary is no more than a test of general school education plus a minimum knowledge of draftsmanship. Naturally, certificates or examinations of a large number of recognised Universities, colleges, and schools are accepted as the equivalent of the general portion of the examination, and candidates may submit drawings which, if satisfactory, exempt them also from the technical part of the test. The meanings of this Preliminary Examination and of the exemptions therefrom are, first, that it insists on a reasonable grounding in history geography, literature, mathematics, and science; second, that it calls for some witness to the applicant's hope of being able to draw; and third, that it acknowledges the ability of

* Substance of a paper read before the R.I.B.A. on February 16.

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(See also pages 239 and 240.)

most secondary schools to equip a candidate with all that is asked for at this stage. The Intermediate Examination brings the candidate to grips with the realities of architectural study. It is the aim of this test, as of the Final Examination, to make sure not only that the candidate can answer questions, but that he shall have spent a reasonable period of time in steady work. To this end the regulations demand the production of testimonies of study; nominally they consist of eight sheets of half double elephant, two of which represent the orders, two more contain measured work, one deals with ornament, and the three remaining represent carpentry and other construction. In regard to these the Institute is reasonable, and inasmuch as the whole object of these testimonies is to prove that there has been on the part of the candidate practical exercise in architectural subjects, certain work done in the Royal Academy School and in the Architectural Association School to be accepted in lieu of the standard requirements. The written part of the Examination, which occupies three days, consists of two papers on styles, history, and features, two upon construction, practical and theoretical, and a fifth paper, the subject of which is optional, giving the candidate the choice of specialising in a rudimentary way in architectural history, mathematics and mechanics or elementary design.

In the final test great importance is attached to the work which has to be submitted before the candidate is admitted to sit for the written and oral examination. Naturally this final test concerns itself very largely with the question of design. Every six months the Institute publishes subjects on a choice of which the candidates may work, and each candidate before admission to the examination has to submit four designs of sufficient merit to be approved by the Board of Architectural Education. In addition each candidate has to offer an original thesis on a historical, scientific, or æsthetic subject kindred to architecture. In the examination itself the merely catechetical portion is limited to hygiene, materials, construction, and professional practice, the greater part of the time being devoted to the actual working out of an original design on a set subject. This examination is distinctly supplemental to the Intermediate test: a fulfilment of it, and destined to be a criterion of a candidate's full powers as an artist in design, a specialist in construction and man of business. It is often argued that one cannot examine an artist in art—it is also argued that one cannot teach art. The answer to the latter argument is that if you cannot teach art some men can certainly learn it, and to the first that though no examination can plumb the depths of the unfathomable or measure the heights of the sublime, it can certainly slam the door on those who show that they have neither depths nor heights in their constitution.

To return to the Intermediate. The Institute, true to its policy of assisting rather than embarrassing the student, and to promote and encourage the means of education, has very wisely decreed that the courses of certain very carefully selected schools should be accepted as substitutes for the passing of this examination. The Institute's hold on the qualifications of these recognised courses is secured by the verdicts of external examiners or visitors. These examiners are for the most part members of the Board of Architectural Education, or if not are persons in whose judgment on the subject of standard the Board can place entire confidence. The whole objects of the examination system, as fostered and controlled by the Institute, are first to make sure that sound education is going on in the country, and secondly to make sure that only those who have successfully learned architecture are admitted as Associates.

The Institute has owed, and will continue to owe, incalculable thanks, on behalf of architecture, to the personnel of the teaching profession. That profession has been recruited almost exclusively from men who owed their own education, directly or indirectly, to the examination system. Their knowledge of the difficulties, opportunities and circumstances which beset the teaching of architecture are very great, and the presence of many of their number on the Board of Education is of the highest possible value. Now, it always has to be remembered, and it is very easily forgotten, that learning is a much more important thing than teaching. Teaching is nothing more, in its noblest development, than an aid to learning. There is abroad a school of thought which insists that the class of education a man receives is more importance than the class of knowledge he has obtained by learning: but it does not matter where a man has been educated, or how he has been educated, so long as he knows. To say this is not to be an enemy to the schoolishness of schools. Some critics have suggested that in some of the more flourishing seats of architectural learning there is too academic a spirit, that the work produced is too much of one type, and that the actual designing is in a groove of too great similarity. Those who fear it most are forgetting what is the nature of architecture. Nor, of course, is there anything to be said by any sensible person against the multiplication of architectural schools. The more the better—if they are all good. So long as it is remembered that a school is primarily a place in which to learn, and only secondarily a place in which to teach, we can continue to give unqualified thanks for the great benefits they are continually rendering to the standard of knowledge among young practising architects.

An encouraging sign in connection with architectural education is a strong enthusiasm on the subject of reform. It is difficult when voices clamour from every side in violent disagreement to be in sympathy with all the clamourers, but the clamour covers that wholesome energy which is the mainspring of progress. From one quarter there comes the insistent suggestion that what is needed for the enlargement of educational growth is the abolition of the stranglehold of the R.I.B.A., and that the control of the examining system should be in the hands of the Universities. To do this group justice, they really do not mean to exclude from the controlling bodies a certain school of architecture which won its way to preeminence before some of the said Universities were born, and which is certainly not behind them in standard of excellence. Others insist that examination can only be fairly conducted by professional teachers; some maintain that a student should only be examined by his own teachers. By some it is felt that the Institute should prolong the period of study, and delay the age of entering the profession. All that the prevailing system suffers from is the old ailment of growing pains, and what is needed is an adjustment in order to bring the machinery of its existence into line with the facts of its new conditions. The call for a more intimate participation in the examination system, the demand for greater stimulus to higher education, the wish for a wider territorial extension of the benefits of such education can all be met by simple devices of organisation. One clamour should never be met—the voice of those who desire that the body which started the educational improvement which superseded mere pupilage should abandon its interest in education and should hand the keys of entry to its own body over to other institutions.

The Board of Education in Architecture must be strengthened, enlarged, so as to be representative of all the national interests which concern themselves with architectural education, and made capable of securing the services of every human and national force which cares about its ends; but it must remain a body appointed or invited by the R.I.B.A., it must jealously and zealously serve the interests of the Institute in excluding unsuitable men from membership, and it must or should be the permanent national force in the control of the examination system. The bonds which at present unite the Board to the teaching bodies of the country must be enlarged. This can be done without any loss of dignity by the Institute and with a great increase of prestige. Every large recognised school should have representation on the Board. Similiarly there should be on the Board such representation as it may be able to invite, and to secure all national bodies interested in its work, the Education Offices of England and Scotland, the Royal Academy, and the older Universities. The Council would elect the main body of the Board, but the enlargement in the directions indicated would make it national as well as professional in character. Obviously, and very rightly, a Board of this increased size and rather changed mentality would be administrative and deliberative rather than executive, and it would remit the functions of detailed control to a sub-committee largely composed of teaching members of the Board, whose duties, however, would be strictly controlled by the Board itself. They would, in fact, be responsible to the Board. No one knows at this moment how far the State itself may take interest in and give aid to architectural education; but it is well to keep such possibilities in view, and it is clear that the State could only welcome the appearance of an authority which by its power and its widespread constituents is ready to be the proper channel for any State help—not merely money—that may be forthcoming.

The schools should be strengthened by a more real admission to representation. We have been asked to give the schools greater rein by according recognition such as will exempt students not only from the Intermediate examinations, but also from the Final Examination. This cannot wholly be done. The schools ask too much when they demand, even under limitations, that we should consider any man as qualified for Associateship without having examined him ourselves in any degree whatever. The most reasonable compromise in regard to this point would be as follows: The professional part of the Final Examination should be enlarged; no student should be considered passed for Associateship until he has obtained two certificates—one in the artistic and technical side of his craft and the other in the

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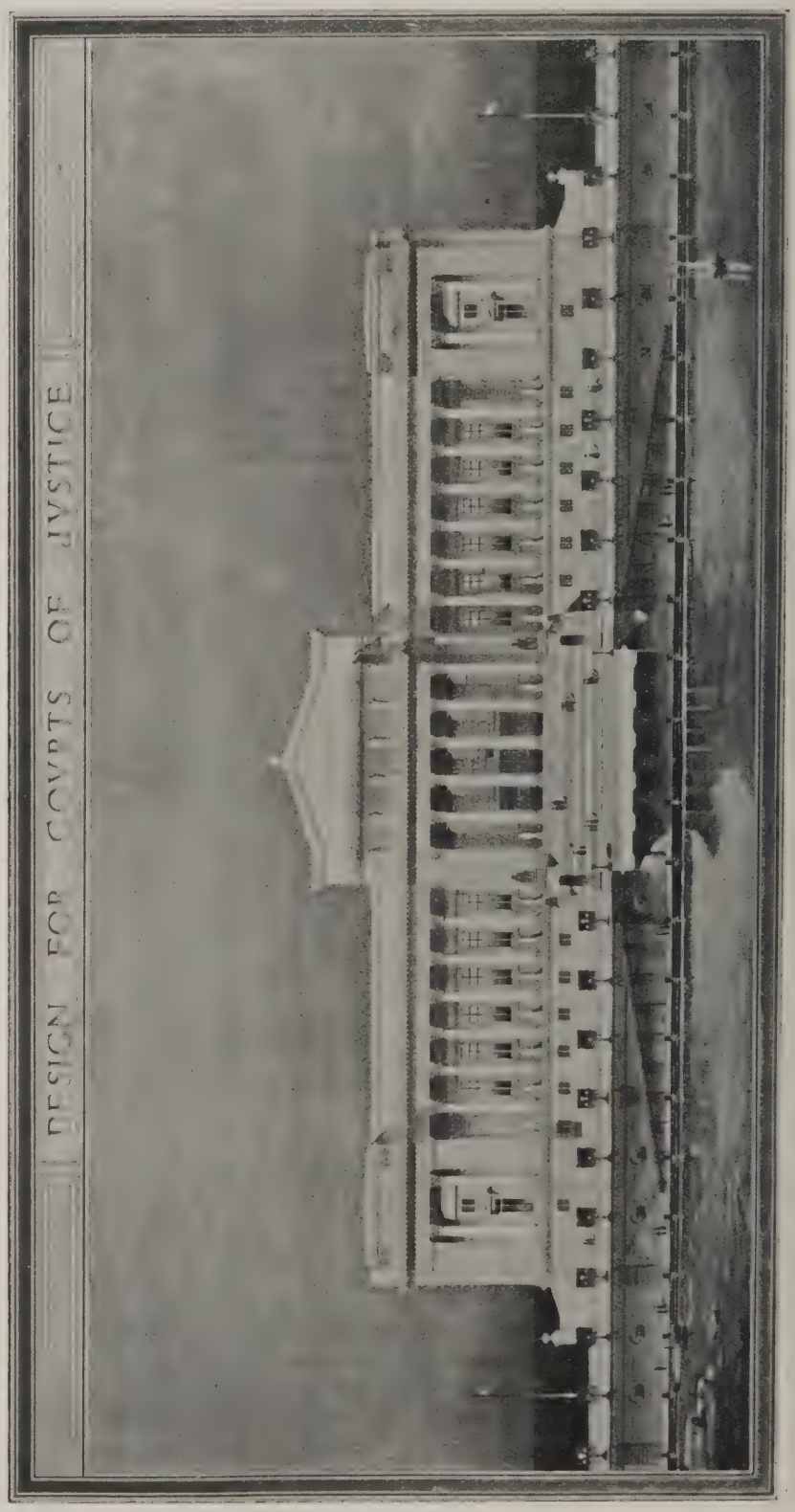
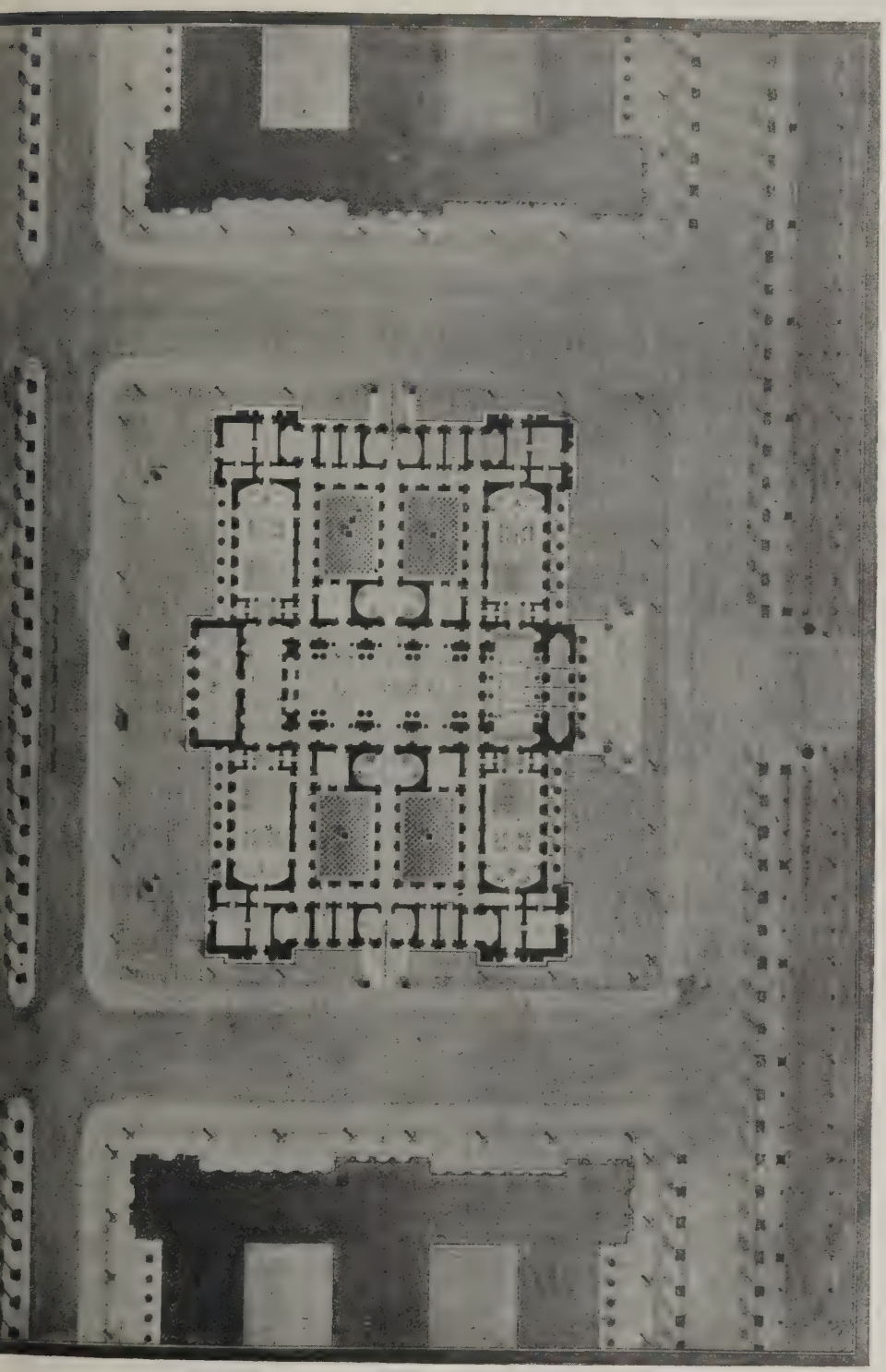
Architectural Designs. 2.—Courts of Justice (Rome Scholarship Competition)

By W. Dougill (Liverpool University)





The above design is one of five selected for the final competition for the architectural scholarship of the British School at Rome. It will be noted that Mr. Dougill places his Great Hall on the transverse axis, and that the minor accommodation is carefully worked out. The drawings are now on exhibition at the Grafton Galleries, London (See critical article on page 247.)

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professional, and he should be allowed to pass first whichever of these two departments of test his own circumstances dictate as most convenient. If, therefore, any schools arrive at such a condition of supremacy as to be worthy of obtaining for their students exemption from a large part of the *Final* Examination, it should be possible to arrange that the Institute, while always continuing to hold its own examinations, should grant such a measure of exemption to the students of selected schools as would not abrogate its own power of saying the final word as to a candidate's fitness. The Institute will not grant to any other body the right of passing applicants in the professional test; that is its own affair, and it is the best and the sole judge. With regard to the technical part of the qualifying examination, we are willing (subject to such safeguards as at present protect exemptions from the Intermediate Examination) to recognise as qualifying for exemption certain advanced courses and examinations of selected Universities and schools, subject always to this proviso—that our examining body must in every case be judges of the standard reached in design. The Institute might retain its essentially necessary hold on the design test without insisting that the design examination should be conducted on the Institute premises. In fact, I imagine that it might be possible for a school pupil of a school "recognised" for the Final Examination to pass the whole of his exemption test on the school or University premises, except that he would necessarily have to pass the Professional Examination at the Institute, and that his exemption on the technical side would not be obtainable until the Institute had passed the *drawings* produced by him in the design test at his University or school. A word should here be said about the control on the standard of the schools which the Institute should continue to exercise. At present this hold is secured by the fact that in the first place no school is admitted to "recognition" rank except after a special inspection by members of the Board of Architectural Education, and, secondly, the courses and examinations on which the recognition is based are constantly under the eye of external examiners, all of whom are either appointed or nominated by the Board, or otherwise in touch with it. This method will need to be strengthened and systematised—probably supplemented by the appointment of inspectors.

In conclusion, I have the most genuine belief in the teaching power of the excellent schools which the young Universities have started, and of the schools which some of the older ones have established; also a genuine confidence in the non-University schools which are springing up and multiplying; and a great expectation of the atelier system, which is putting forth a new life under the sheltering guidance of the Royal Academy; and, lastly, an old affection and loyal admiration for the heroic Architectural Association and its unsurpassed record of educational achievement. In fact, the vigour of architectural education all over the country is one of the most healthy and brilliant things in an England which is not always brilliant and not in all its departments healthy; but there is no reason whatever why the Royal Institute of British Architects should release its love of or its affectionate hold upon the education system which it promoted, fostered, and still controls.

Discussion.

A vote of thanks to Mr. Waterhouse having been proposed by Sir A. S. Bigge, and seconded by Mr. W. R. Davies, C.B., of the Board of Education, the debate on the paper was opened by Professor Pite. He said that much valuable information that would go far towards solving the problem could be gained from the Institute's archives; it was necessary to know what proportion of students who have sat for intermediate examinations came from schools, and what proportion not from schools. He was under the impression that more than a half were trained as pupils and by similar means, and it was imperative to keep open all facilities for such students. It was also desirable to know what leakage of the number took place before the Final; and of those who came up for the Final how many passed and how many failed, and whether the latter came back again. The defect of the present system of education and examination was that students at recognised schools were exempted only up to the Intermediate stage, and the process of education on Institute lines is stopped at that point; the University syllabus is complete to that stage, and incomplete beyond. Some schools or Universities make the Intermediate stage a step in their own course for their own degree: but this is not the same as completing a whole syllabus approved by the Institute. Professor Pite supported the proposal to delegate further powers to the schools, subject to adequate protection, and that the schools should be entitled to give other certificates that would be accepted by the Institute up to the Final. This would increase the value of tuition at the schools in the later stages, by maintaining continuity in the course in conformity with approved standards, and it is in the advanced stages that the advice of a teacher is most valuable. Professor Pite said he was quite unconvinced as to the desirability of the Institute's being the final authority in architectural design. The progressive years are the years of a student's life, when all problems present themselves in their most attractive form. Sympathy for this stage is imperative, but it is doubtful if much comes from under the auspices of the Institute. There was nothing to support the theory that men were Fellows of the Institute because they were distinguished architects, and the standards of examinations should not therefore be kept in their hands. On the other side, schools alone cannot complete the education of the architect, since he needs contact with building, with business, and with men.

Professor C. H. Reilly said he was entirely in agreement with Mr. Waterhouse's conclusions, and was of the opinion that if the proposed extensions in the constitution and powers of the educational bodies were carried out a great stage forward in architectural education would have been accomplished. Schools, he believed, gave the student a much wider outlook over architecture than could be gained in an office, where the pupil's susceptibilities too often naturally leaned towards the foibles of his particular master. The delegation of further powers to the schools to grant approved certificates would enable the teachers to make full use of the great enthusiasm on the part of the students now prevalent in all the large schools. No one wished to take power away from the Institute, but to bring the Institute down into the schools in order to exercise its powers and to dispense its favours there.

Professor Richardson said that architecture cannot be taught: it is only possible to encourage a study of its underlying principles, and beyond this point the director of studies should not go. The existing system of architectural training consists of two parts, the first including the recognised schools attached to Universities, the A.A., and the R.A.; the second (and larger) part includes the numerous Art Schools throughout the country. In this democratic age opinions regarding systems which have no official status must be set aside. The academic training in the recognised schools can only be of a primary nature: the two and three years' courses do not make architects, although they produce Associates of the Institute. Study is not then finished; the present training is not lengthy enough. What is needed is not a complex educational machine designed to meet every academic contingency, but a simple system of training, including acquaintance with professional practice. The great defect of the proposed atelier system is that apparently the ateliers will only be open to men of proved efficiency, and the entrance examination will be very stiff. The R.I.B.A. should encourage not an academic but an ideal atmosphere, retaining its position as premier examining body, with power to enlarge its Education Board and to co-ordinate the work of academic centres. When these important developments have materialised, England will again produce great civic architecture as well as fine domestic work.

Dr. Elliott Smith gave an admirable comparison between the development of the medical profession, and the stages of growth through which the architectural profession is now passing. The Universities are now independent of the royal medical colleges in the matter of granting degrees to doctors. He said there had been a complete break between the two groups on this subject, and they had progressed to this point stage by stage. The fact that the Universities had obtained the separate right to grant diplomas in medicine had been of vast importance in the development and encouragement of medical education, owing to the advantage of being able to complete the training of men instead of merely preparing them for another body. In the medical profession the examiners are men engaged in teaching, as this ocupation is almost the only preparation for being able effectively to fathom the knowledge of a student up for examination.

Major Maurice Webb said that Mr. Waterhouse's proposal to widen the scope and power of the Board of Architectural Education would meet with universal approval; the step was absolutely necessary if the Institute is to keep its position and affection in the architectural world. The present examinations are small things; and the Board should aim at something far greater, attaining a standard far higher than that now prevailing. The larger schools all over the country naturally want to have a voice in determining that standard, and to be represented on the Board of Architectural Education. There was no reason why all the bodies interested should not be represented on the Board, and before any school or University gave certificates or degrees the course of training and the standard of examination could be agreed upon with the Board. In any event these school diplomas would not be the means of entry into membership of the R.I.B.A., which would still be subject solely to whatever

rules might be laid down by the Institute. Professor A. C. Dickie, of Manchester, said he would concur in any reasonable proposal to raise the standard of architectural education to a higher stage than the one prevailing. Those engaged in such education are much handicapped, and should receive every possible assistance from the Institute. The step proposed by Mr. Waterhouse would be of considerable assistance, and it would be regrettable if the schools were driven to relieve themselves of the Institute's "embrace" because it seemed too great an evil.

Mr. A. E. Munby said that at the present time some definite provision should be made in architectural training for investigation of the many new materials and methods of construction appearing on the market.

Mr. Lionel Budden said that if the Institute insisted upon centralised examinations it would leave architectural education where it was. He pointed out the superior position of the medical profession, which relies upon the Universities to train students and grant diplomas, and he urged the Institute to consider this as a model. Those who proposed this had no desire whatever to take away from the Institute the right of entry to the Institute: all that they wish is a measure of de-control allowing them to hold examinations and to grant certificates in a manner approved by the Institute. Mr. Budden emphasised the enormous advantage to the prestige of a profession if its diplomas were won only by an education of University rank; he thought it would be well for the Architectural Association to be affiliated in some manner to London University, for example, in order to obtain this status: such a great school should be able to give its brilliant members the prestige of an academic degree.

Construction. 7.—Metal Lath on Frame Wall Construction

JUST how long ago buildings with walls of stucco over a timber framework were first erected in America is not certain. Some stucco buildings a quarter of a century old are referred to as pioneers in this class. This type of stucco building has been erected in considerable numbers only during comparatively recent years, but it may safely be stated that it is still in the experimental stage, and improvements in design and construction will undoubtedly be introduced from time to time. Sufficient study has thus far been made to indicate the right and the wrong way to build such structures. In evolving stucco-covered frame dwellings, from those with clapboard or single siding, the only change originally made was to omit the siding, applying lath to the under sheathing and plastering the stucco thereon. The sheathing in most cases was placed diagonally in order the better to brace the wood frame. According to the "American Architect," from which the following interesting description of the construction is reproduced, it has clearly been proved that such construction is not good and will generally result in cracked stucco. When sheathing is used no reliance should be placed on it as a bracing for the frame. In every case this timber frame, whether sheathing is used or not, should be independently braced. This can be accomplished by installing diagonal bracing at the corners and bridging between the studs. The diagonal bracing should consist of at least 1 in. by 6 in. boards, about 6 ft. long, let into the studs so that the face of the bracing is flush with the inside face of the studs crossed. The bridging should be provided at least once in each storey height and horizontally placed.

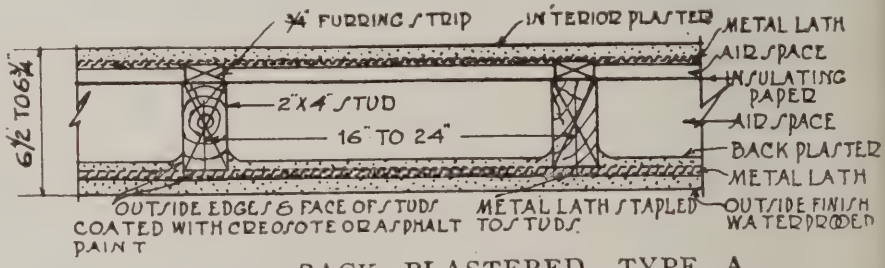
Where back plastering is to be used, the outside edge of the bridging should set back 1 in. from the face of the studs, to permit the back plaster to continue past the bridging. In such construction 2 in. by 3 in. bridging should be used. Studs should be at least 2 in. by 4 in. spaced not over 16 in. on centres, extending from foundation to rafters without any intervening horizontal members. They should be tied together just underneath the floor beams by 1 in. by 6 in. ribbon boards, let into the inner side of the studs, so as to finish flush and be securely nailed thereto. The floor joists, besides resting on the ribbon board, should also be securely spiked to the studs.

The 1919 report of the Committee on the Treatment of Concrete Surfaces of the American Concrete Institute states relative to the matter of sheathing: "When sheathing is used, it should be laid horizontally and not diagonally across the studs. The stucco test panels erected at the Bureau of Standards in 1915 and 1916 have demonstrated conclusively that diagonal sheathing tends to crack the overlying stucco by setting up strains in the supporting frame. This result is undoubtedly due to the shrinkage of the sheathing, and whatever benefit might be anticipated from the more effective bracing provided by diagonal sheathing appears to be more than offset by the shrinkage effect. Diagonal sheathing is also less economical than horizontal sheathing, both in material and labour."

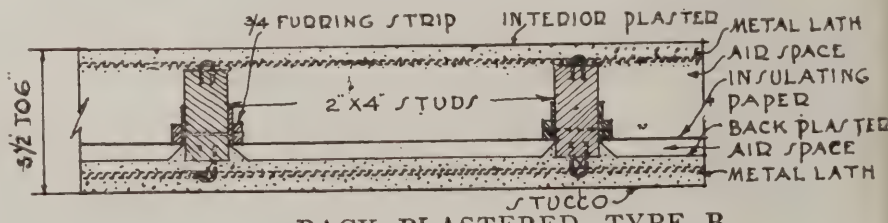
After a careful analysis of the results observed to date at the Bureau of Standards test panels (many of which have been exposed for four years), together with an investigation of buildings completed a sufficient length of time to afford a basis of judging results, it is safe to conclude that for stucco work wood sheathing is unnecessary for frame walls when they are properly braced and covered with metal lath, provided one coat of back plaster is applied on the inside of the lath between the studs. This type of construction, properly executed, is more desirable than that in which wood sheathing is used. It will be referred to in this article as the "back-plastered" type.

The proper steps in its erection are as follows: After the wood framework of the building, commonly referred to as "balloon framing," is erected, it is sometimes deemed advisable to coat the outside faces of the studs with a waterproofing or preservative paint. While this is not objectionable, there is insufficient definite information on record as to its efficacy, which seems doubtful, and its elimination is recommended in the report previously referred to.

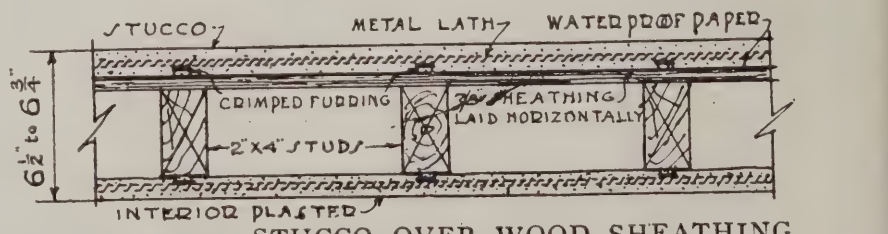
Where a ribbed type of metal lath is specified and furring is integral with the lath so that when applied the perforated fabric is held away from the face of the studs, no other furring becomes necessary, but when a uniform, non-ribbed lath



BACK PLASTERED, TYPE A.



BACK PLASTERED, TYPE B.

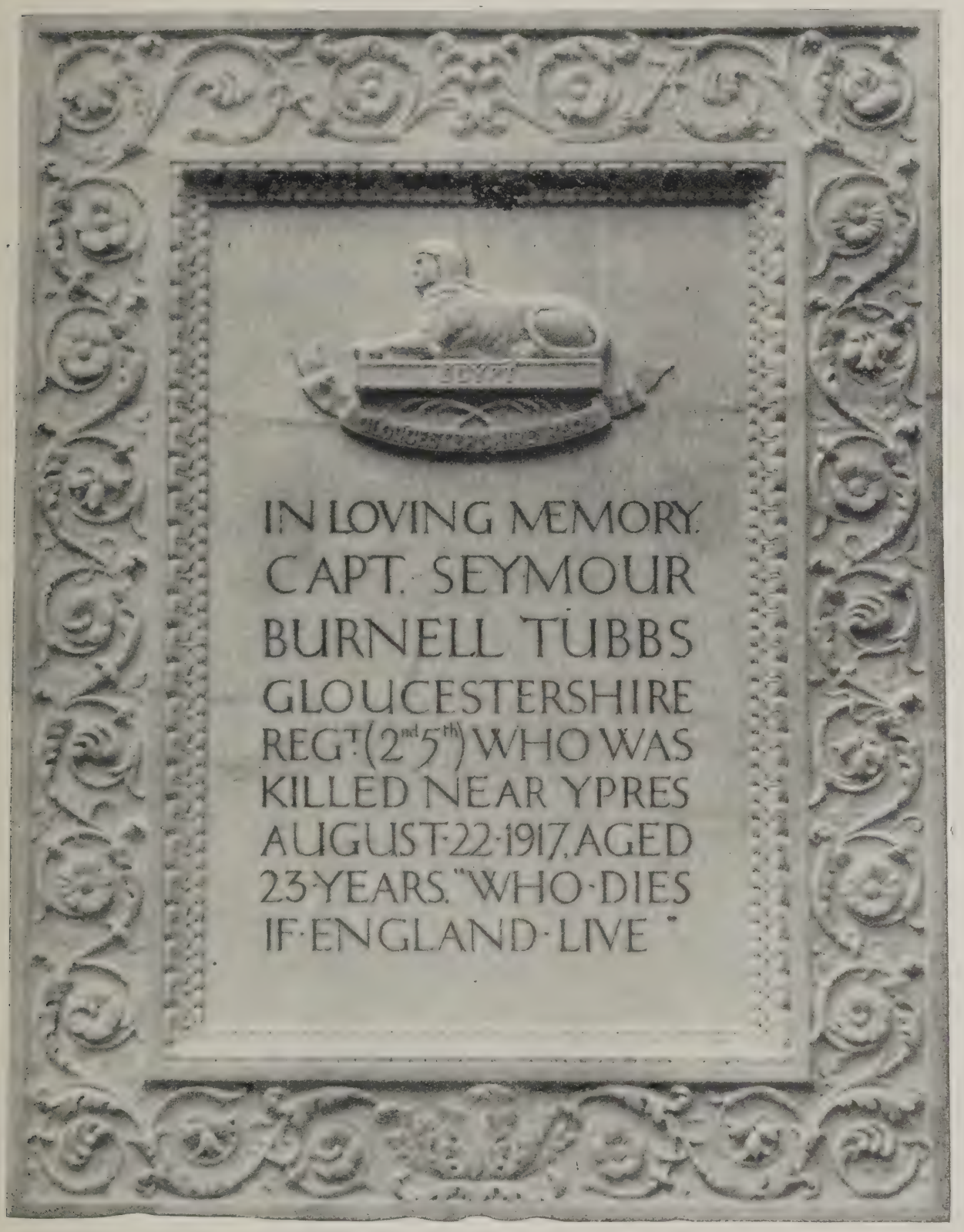


STUCCO OVER WOOD SHEATHING

HORIZONTAL WALL SECTIONS.

War Memorials. 1.—Tablet in Kingswood Church, Wotton-under-Edge

Grahame B. Tubbs, A.R.I.B.A., Architect



This wall tablet is being erected in Kingswood Church, Wotton-under-Edge, Glos., from the design of Mr. Grahame B. Tubbs, A.R.I.B.A. Capt. Seymour Tubbs was the second son of Mr. Percy B. Tubbs, F.R.I.B.A., and Mrs. Tubbs, and was the brother of the designer. The tablet, which is in white Pentelican marble, with the letters tinted a light grey for the sake of clearness, was carried out by Messrs. Farmer and Brindley.

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; used it should be furred out ⅜ in. from ne face of the studs. This keeps the lath rom the studs and permits the plaster to ecome keyed behind the lath where it rosses the studs. Galvanised or painted in. crimped furring not lighter than No. 2 gauge, or some other shape providing n equally good result, should be fastened irectly to the studs by 1¼ in. x 14 gauge taples spaced 12 in. apart.

Metal lath should be specified by 'eight rather than by gauge. It should be alvanised or painted expanded lath, 'eighing not less than 3.4 lb. per square ard. When back plastering is used, ainted lath is entirely satisfactory. Wire lath should be galvanised or painted woven wire lath, not lighter than 19 gauge with 2½ meshes to the inch, provided with stiffeners 8 in. on centres.

The lath should be placed horizontally and fastened to the studs by 1¼ in. x 14 gauge staples not more than 8 in. apart, driven over the furring or stiffeners.

In placing the metal lath the method of joining the different sections of the lath is important. Unless properly joined these junctions constitute a weak point and are likely to be the cause of cracks that may develop later. The horizontal joints can best be made by butting the lath and tightly lacing with 18 gauge galvanised wire, thus drawing the lath taut. This method is preferable to lapping. Where ribbed lath is used, carefully locked horizontal joints should be specified. Vertical joints should always be made at studs, where the lath can be lapped and well stapled at intervals of not over 4 in. Joints should not occur at corners, but the sheets of metal lath should be folded around the corners for a distance of at least 3 in. and stapled down. It is not advisable to use corner beads. The stucco can be rounded at the corners to avoid sharp edges. To secure the best results the corner posts of the timber frame should be chamfered, otherwise the thickness of the stucco at the corners will be reduced and this will constitute a weak point.

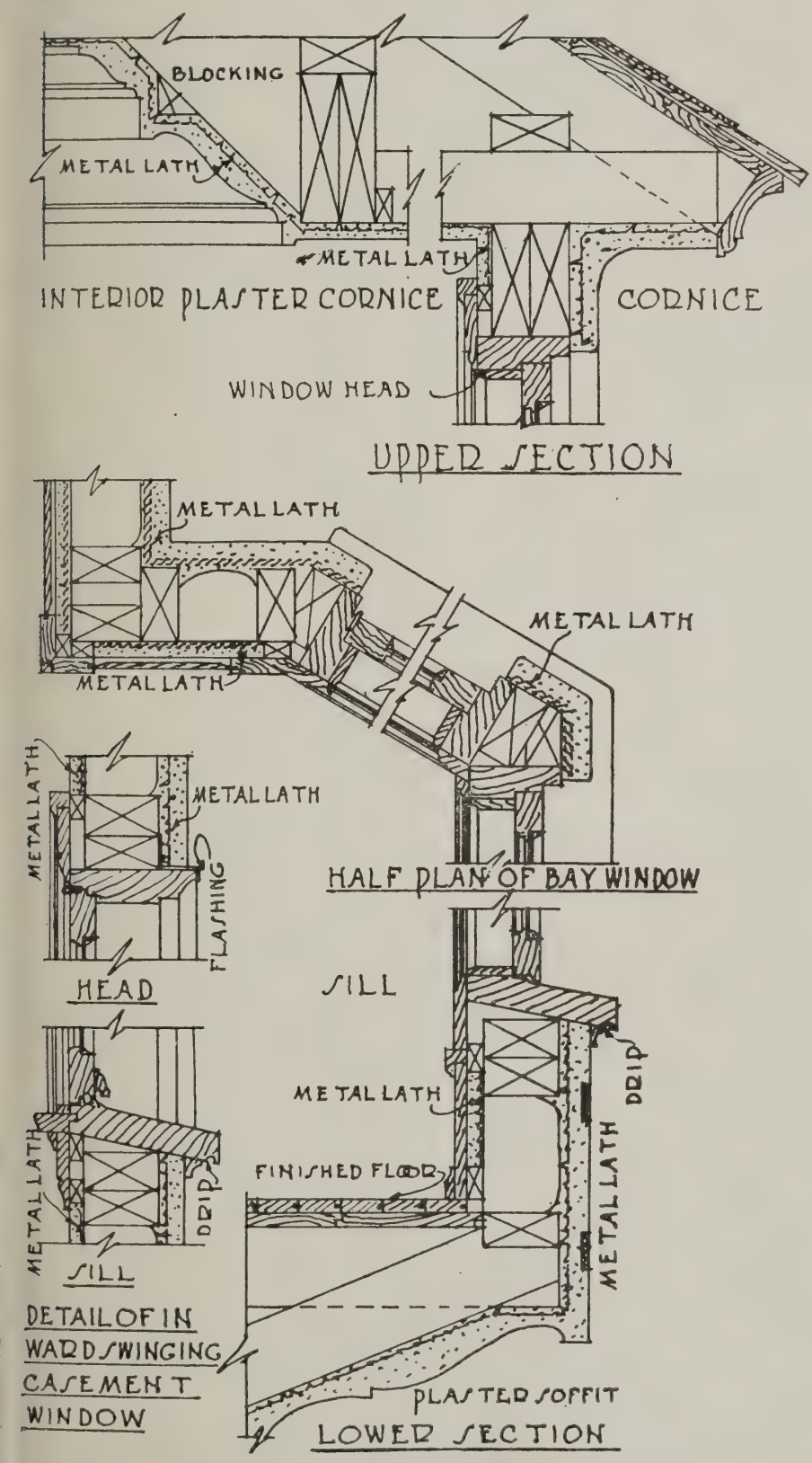
After the application of the lath in the manner specified the work of plastering the stucco over coating should begin. The back plaster may be applied at any time after the first or scratch coat of stucco has been placed. Sometimes the back plastering is done first, and the material which is forced through the lath really acts as a scratch coat for the exterior coats of stucco. By applying one coat of back plaster and from two to three coats of stucco the metal lath is placed in the interior of the stucco, where it rightly belongs; thus the stucco really becomes a reinforced artificial stone slab 1½ in. thick, and as such presents an effective, durable, and fire-resisting exterior wall surface.

The house should retain the heat in winter and prevent heat penetration during the summer. This can be accomplished in the back-plastered type of stucco building by providing a membrane of insulating weather-proof paper. After the back plaster has set the insulating paper is fastened to the inside of the studs and held in place by furring strips. This provides a 3½ in. air space between the stucco and the paper, and a ½ to ¾ in. air space between the paper and the interior plaster. Recent tests on the heat insulating value of stucco walls have shown that ordinary building paper laid double gives even better results than a single layer of more expensive paper. It is strongly recommended that the interior plastering be done on metal lath, since it materially increases the fire resistance of the building and provides a better construction. If, however, it is not possible to do this wood lath may be substituted. In any case, the space between the studs for the depth of the floor beams should always be filled with incombustible material such as brick, concrete, gypsum blocks, etc., to provide an adequate fire stop. A frame building stuccoed as described, plastered on wire lath in the interior and fire stopped between beams, is a safe structure from a fire hazard standpoint.

A report by the United States Bureau of Standards on the test panels under observation states:—

"The four metal lath panels comprising Group III., constructed with metal lath attached to studs without sheathing and lath back-plastered, were all rated 'Fair' or better. In other words, the back-plastered metal lath without sheathing has the full 100 per cent. rating the same as monolithic concrete and brick. Of this type of metal lath construction is Panel No. 15, the panel which has received a rating of 'Excellent' in all inspections."

As already stated, the sheathing should be placed horizontally and not diagonally, and the wood frame well braced. The sheathing boards should not be narrower than 6 in. nor wider than 8 in., dressed on

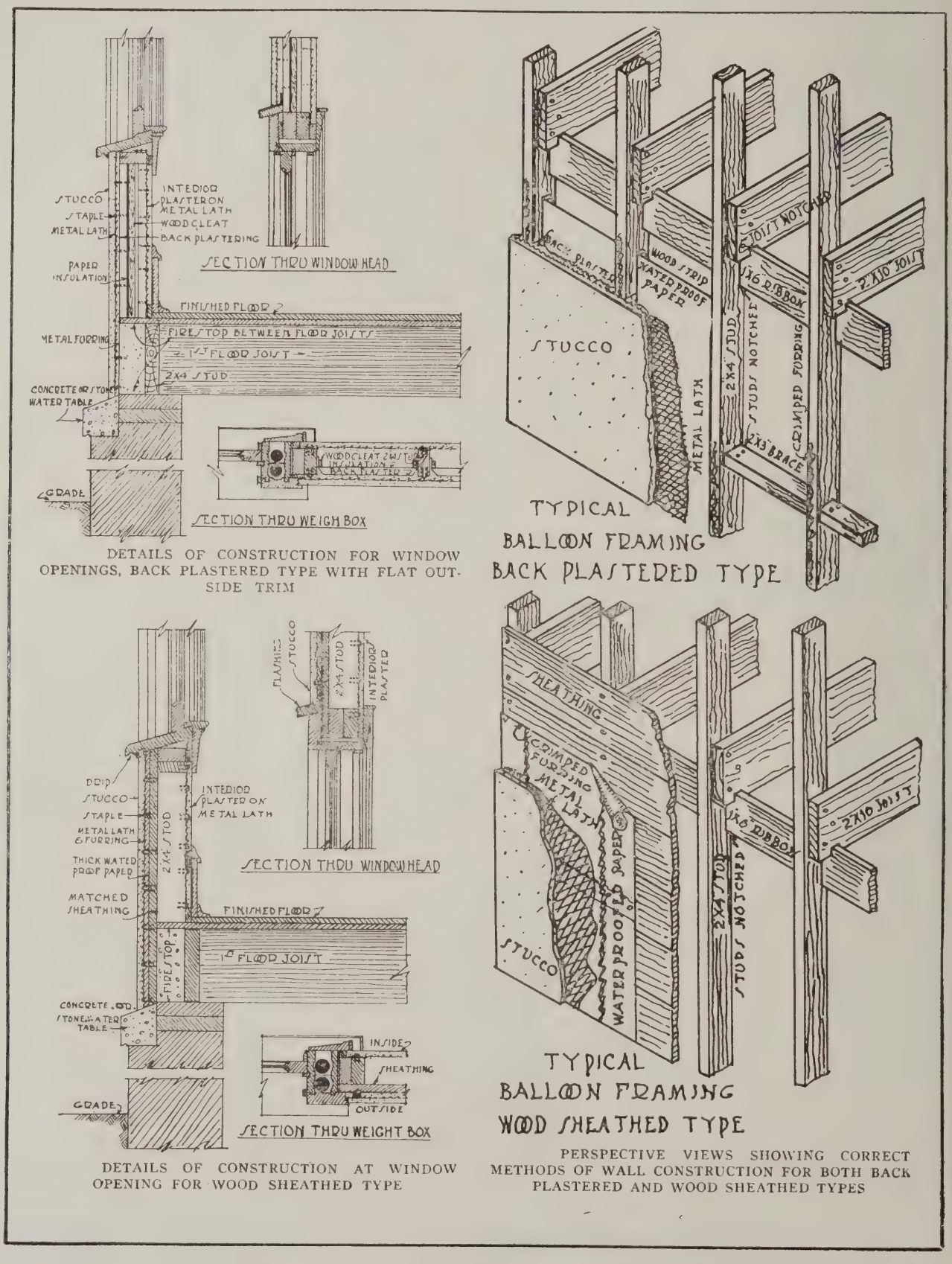


DETAILS OF BAY WINDOW CONSTRUCTION: BACK-PLASTERED TYPE.

one or both sides to a finished thickness of $\frac{7}{8}$ in. In nailing the sheathing to the studs at least two 8-in. nails should be used at each stud. Directly over the sheathing boards a substantial waterproof paper impregnated with tar or asphalt should be applied in horizontal layers, beginning at the bottom and working upward. The bottom strip should lap over the base board where one is used at the bottom of the wall, while each succeeding strip should lap the one below by at least 2 in. The paper should lap the flashings at all openings.

Over the waterproof paper and directly along the line of the studs should be fixed $\frac{3}{8}$-in. metal furring strips of either galvanised or painted 22-gauge or heavier metal, spaced 12 in. apart. This depth of furring should be maintained around curved surfaces and at openings, the furring being placed from $1\frac{1}{2}$ in. to 4 in. on either side of as well as above and below the opening. The metal lath should be placed as already described for the back plastered type. The brick, stone, or concrete foundation walls should always be carried up well above the ground level.

There is now a strong prejudice in the United States against the "all wood" frame building, and the "fire limits," within which such buildings are prohibited, are constantly being extended. Methods by which fire hazard can be reduced should be encouraged. The one described in this article provides a solution



DETAILS OF STUCCO ON METAL LATH CONSTRUCTION.

The Week's News

Institution of Civil Engineers.

At the last ordinary meeting of the Institution of Civil Engineers twenty-seven Associate members were elected, and nine Students were admitted.

Scottish War Memorial.

It is expected that the projected Scottish National War Memorial will soon assume definite form, and that the proposal to make Edinburgh Castle the site of the memorial will be favoured, not only by the Corporation of Edinburgh, but also by the other big corporations in Scotland.

Polish Exhibition.

On the initiative of the Ministry of Industry and Commerce, a Danzig Fair and Exhibition Committee has been established at Warsaw. Representatives of the Ministries as well as various Polish notables will take part in this Committee. —Reuter's Trade Service.

Board of Trade Profiteering Department.

The Profiteering Act Department of the Board of Trade have removed from 1, Queen Anne's Gate Buildings, S.W., to 22, Carlisle Place, Westminster, S.W.1. Telephone, Victoria 4173. The Central Committee under the Profiteering Act remains at 54, Victoria Street, Westminster, S.W.1.

A.A. Club Rooms.

The new club rooms of the Architectural Association will be available for the use of members after March 27. The smoking-room and library lounge will be open from 10 a.m. to 10 p.m. daily, Saturdays included, and the dining-room (where luncheon, tea and dinner will be served) will be open from 11 a.m. to 8.30 p.m.

Castle as War Memorial.

Clitheroe Corporation has agreed to buy Clitheroe Castle as a war memorial providing the ratepayers agree. The castle, which is a landmark for many miles, stands on a rocky eminence, and is surrounded by pleasant grounds in which stands a modern mansion. The tower, 20 ft. square, with walls 10 ft. thick, is supposed to have been built by Robert de Lacy in the reign of Rufus.

Solid Lubricants.

The Department of Scientific and Industrial Research have published a memorandum on solid lubricants, which has been prepared by their Lubricants and Lubrication Committee. The memorandum, which embodies existing knowledge on the subject, and which should be regarded rather as a summary of existing literature than as an authoritative statement based upon actual research work, is published by H.M. Stationery Office and may be purchased through any bookseller, price 6d. net.

Electricity Commissioners.

The Minister of Transport, in pursuance of his powers under the Electricity (Supply) Act, 1919, has appointed Sir John F. C. Snell, M.Inst.C.E., to be Chairman of the Electricity Commissioners, and Mr. H. Booth, O.B.E., of the Board of Trade, Mr. W. W. Lackie, C.B.E., M.Inst.C.E., M.I.E.E., and Mr. Archibald Page, M.I.E.E., to be Commissioners. All communications for the Commissioners should be addressed to the Secretary, Electricity Commissioners, Gwydyr House, Whitehall, S.W.1.

Mansfield War Memorial.

The Mansfield War Memorial scheme involves the spending of £10,000 in the purchase and adaptation of Carr Bank, a fine house, with extensive outbuildings, beautiful gardens, and land adjoining, to the extent of about fourteen acres. The erection of memorial entrance-gates, bearing tablets, containing the names of those who gave their lives for their country, is suggested. It is also proposed to use Carr Bank as a museum, and, if that course is taken, the Baily Collection will be removed from its present home, near the Free Library. Part of the premises might be used as a picture gallery.

British Industries Fair.

The British Industries Fair, organised by the Board of Trade, opened at the Crystal Palace, London, on February 23 and will remain open until March 5. A large range of goods are exhibited by about 1,100 firms, all of whom are British manufacturers, and include scientific instruments and furniture. The Department of Overseas Trade have installed a special enquiry office at the Fair, and visitors are invited to make application for any information they may require. The department's officers will be prepared to furnish the names of suitable British manufacturers to visitors who may experience difficulty in obtaining the goods they require.

New Pictures at the National Gallery.

Three new pictures are now on view at Trafalgar Square. The largest is a full-length portrait of the third Marquis of Hamilton, by Daniel Mytens, presented by Mr. Colin Agnew and Mr C. Romer Williams, and hung in Room XXV. In Room XIX., among the primitive works of the Netherlands, will be found a small panel, lately acquired, representing "Lot and His Daughters," a Dutch work dating from about 1510: while in the vestibule hangs the "Virgin and Child," by Fra Filippo Lippi, which was recently on view at the Burlington Fine Arts Club, and which has since been presented to the nation by the Earl Brownlow.

Non-Ferrous Materials.

The following particulars are published of the stocks (exclusive of old metal and scrap) in this country of soft pig lead and refined spelter in the possession of the Minister of Munitions on February 1, 1920: Soft pig lead, 47,348 tons; refined spelter, 8,697 tons. It must be noted that a proportion of the above stocks is already sold to the trade for forward delivery. Since the stocks of virgin non-ferrous metals unsold under the control of the Government have now reached such proportions that they cease to be an important factor in the general stocks of such metals held in the United Kingdom (with the possible exception of lead and refined spelter) it is proposed to discontinue publication of these notices in the near future.

Manchester Society of Architects.

At a general meeting of the Manchester Society of Architects on February 4, Mr. Paul Waterhouse, M.A., F.R.I.B.A., gave an address intended especially for the students. He said that optimism was essential to success, and spoke of the joy that was to be found in the calling of an architect, and the pride that the student should feel in following so honourable a career, which should make up for the lack of material prosperity. Many human suggestions on the relation of the architect to the client were given, and the attitude towards life in general. Mr. Waterhouse also spoke of the attitude of the "guv'nor" of the last generation towards the pupil and junior draughtsman in his office. Schools are undoubtedly a great advance, and save the student from the uneducated and selfish master at the formative stage; but at the same time we must not forget the advantages of the old system where the good master-architect took a real personal interest in the career of his pupils.

The Reconstruction of Rheims.

The Municipal Council of Rheims some time ago asked that plans for reconstruction of the city should be submitted to them, and recently it was practically decided to adopt a combination of three separate proposals by French experts. A fourth scheme, however has latterly been submitted, drawn up by a Mr. George Ford, formerly an American Red Cross officer in France, and this scheme has now received the formal approval of the Municipal Council. The work principally affects the damaged districts around the cathedral where the general aspect of the quaint old thoroughfares and the characteristic old-world architecture will be faithfully reproduced, so that Rheims rebuilt will not seem a strange city to its returning inhabitants.—Reuter's Trade Service.

The Society of Architects.

An ordinary meeting of the Society of Architects was held at 28, Bedford Square, W.C.1, on Thursday, February 12, at 8 p.m. The president, Mr. Edwin J. Sadgrove, having taken the chair, the minutes of the previous meeting were taken as read, and were confirmed and signed. The secretary announced twenty-four nominations for membership, including five from the South African branch of the society, and the reinstatement by the Council to membership of L. W. Barnard, F.R.I.B.A., of Cheltenham.

The secretary further announced the admission by the Council to the register of students of H. M. Barker, of Walmer; S. W. Beames, of Eastbourne; F. W. Harvey, of Stoke-on-Trent; and W. A. Funnell, of Croydon. Sympathetic reference was made to the loss sustained by the society through death of Henry Titus Wakelam, member, of London.

The ballot was then taken for the election of the following candidates for membership, and was declared to be unanimously in their favour: Messrs. William Atkinson, of Bushey; Thomas O'Beirne, of Ayr; Frederick Arthur Leslie Butler, of Birmingham; Herbert John Davies, of Watford; Charles George Fullford, of Salisbury; Arthur Charles Gilbert, of London; Arthur Thomas William Goldsmith, of Eastbourne; Hubert William Horsley, of London; Herbert Palser, of Eastbourne; and Herbert Skyrme, of Hereford.

This concluded the business of the meeting, and was followed by a paper by Mr. G. A. T. Middleton, Past Vice-President, on "The Starting-point for London Developments." The following took part in the ensuing discussion: The President (Mr. Sadgrove), Mr. Percy B. Tubbs, Mr. Ellis Marsland, Mr. W. H. Leverton, and Mr. Percy Lovell. Mr. Middleton replied to the points raised.

Town Development and Housing

St. Columb.

St. Columb R.C. has decided to invite tenders for building eighty-four houses.

Acton.

Acton has borrowed another £100,000 at 6 per cent. for housing.

Wandsworth.

In view of the shortage of bricks Wandsworth Council are considering the erection of 250 concrete houses

A New Severn Bridge.

The Great Western Railway Company intend to build a new bridge across the River Severn for railway, road, and motor traffic in order to shorten the South Wales to London route.

Guildford's Garden Suburb.

Preliminary arrangements have been completed for the establishment on the western border of Guildford of a garden suburb. An estate of nearly 650 acres is to be developed upon co-partnership lines.

Camberwell.

A garden city of 150 houses is to be built by the Camberwell Borough Council, who will acquire the lease of a site known as the Casino House estate, comprising sixteen acres, at Red Post Hill, Camberwell, for that purpose.

Featherstone.

The Featherstone U.D.C. have decided to erect fifty-one houses on the Church Field Estate, Purston. Thirty-five houses are to contain three bedrooms, kitchen, etc., while sixteen will contain four bedrooms, parlour, kitchen, etc.

Hythe.

Only one tender has been received by the Hythe Corporation for the erection of cottages on the site acquired for the housing scheme. This was to erect forty-two dwellings for £41,672, and was a provisional offer. The Council resolved to refer the matter to the Housing Commissioner.

Foreign Visitors.

A party of forty Norwegian burgomasters, mayors, municipal architects, and civil engineers have arrived in London and will study the housing problem and how it is being solved in Great Britain, beginning in London, and afterwards visiting Oxford, Birmingham, Liverpool, Edinburgh, and other places.

Conway.

The Conway Town Council have provisionally accepted tenders for the erection of 191 houses at Llandudno Junction for £198,000, and the tender of forty houses on the Gyffin site for £40,052 10s. 4d. These tenders do not include the price of land or the construction of roads and sewers, for which separate tenders have been accepted.

Ashby.

Ashby U.C. has accepted a tender for the erection of sixty houses on Smisby Road for £47,518, and a tender of £1,407 11s. for the roads and sewers. The provisional rents, excluding rates for the houses, are: Non-parlour, 8s. 6d. weekly; parlour, living-room, scullery, and three bedrooms, 10s. 6d.; ditto, with four bedrooms, 12s. 6d. The original tenders had been reduced from £925 to £790 per house.

Hendon.

The Hendon Council has accepted the tender for the erection of 244 houses on the Brent Hill site (near the Welsh Harp). The tender, for concrete construction, amounted to £189,996, the average cost of three types of houses ranging from £695 to £771. Each house will have at least three bedrooms and a bathroom. The saving, as against brick construction, is about £26,000. Eighty houses are to be built by the Huntingdon Rural Council at a cost of £80,000.

Compulsory Purchase of Land.

The Minister of Health has issued to municipal authorities copies of the Housing Acts (Compulsory Purchase) Amendment Regulations, 1920, which have been issued for modifying the Housing Acts (Compulsory Purchase) Regulations, 1919. The Order is designed to reduce the expense of the preliminary proceedings connected with obtaining land compulsorily for housing purposes in rural districts, when the land does not exceed five acres in extent.

Sheffield.

Sheffield's housing schemes are slowly developing; sixty houses are ready, and 425 are in course of erection. On the Brushes Estates the streets are to be lighted by electricity. A site on the Stubbin estate is to be placed at the disposal of the Ministry of Health for the erection of a number of experimental houses. On the Norwood Estate one block of houses is to be constructed throughout with concrete blocks. The contractors do not anticipate any saving in cost, but expect the period for completion can be shortened.

Conway.

The following tenders have been provisionally accepted by the Corporation 104 houses of various types at Llandudno Junction, Mr. George Salt, Deganwy, £108,500; forty houses, type B, at Gyffin, Messrs. Griffiths and Jones, Conway, £40,052 11s. 4d. The works in connection with the roads, sewers, etc., will shortly be completed, and it is hoped to have a number of the houses ready for occupation early in the summer months. Mr. J. Arfon Jones, of Roby House Chambers, Llandudno, is responsible for the architectural work in connection with the schemes.

Advances to Builders.

The Ministry of Health understand, from information which they have received from representatives of some of the building societies whom they have consulted, that certain societies are prepared to make advances to builders, as well as to purchasing occupiers, of houses in respect of which Government subsidies are payable under the recent Housing (Additional Powers) Act. In some cases it is understood that the building society would be prepared to lend up to 75 per cent. of the cost of building to the occupying purchaser, and up to 75 per cent. of the reduced cost (i.e., cost less subsidy) to the builder.

Delay in Housing Schemes.

The Council of the R.I.B.A. desire to call the attention of the members of the Institute and of the Allied Societies to the vital importance, in the public interest, of avoiding delay in the preparation and execution of housing schemes which may have been entrusted to them. The Council are well aware that the delays which have taken place hitherto are in the main due to causes beyond the control of the architects concerned, who have done their utmost to press on this great national work. Nevertheless, they trust that all architects engaged upon housing schemes will continue to devote the best of their skill and energy to the task and will, as far as possible, give it priority over their other professional work.

The Assistants' Union

The Architects' and Surveyors' Assistants' Professional Union is celebrating its first anniversary on March 4. On that day a year ago the Union was born, though it made no public appearance until nearly two months afterwards. Since then it has grown wonderfully in numbers, in usefulness, and in prestige, and to keep with all fitting solemnity such an occasion, the Executive have arranged for a mass meeting of all employed members of the allied professions at Caxton Hall at 6.45 p.m.; a strong platform is being arranged, and simultaneously meetings are to be held at as many centres as possible: Liverpool, Southampton, Norwich, Glasgow, Manchester, and, it is hoped, Edinburgh, Newcastle, Sheffield, Birmingham, and elsewhere.

As a result of the Union's first year's work the Architects' Assistants' Welfare Committee is re-established and reconstituted, and a meeting was called for February 17, when representatives of the Royal Institute of British Architects, the Surveyors' Institution, the Society of Architects, the Quantity Surveyors' Association, and the Architectural Association met the honorary secretary and Messrs. Evans, Duncan, Farmer, Strachan, Stone and Hannam of the Union.

An important matter which the Union has recently had under consideration is the plight of the student in the smaller provincial town. He has perhaps finished his "articles" or even a course at a recognised school, but he realises, or ought to realise, that if he is to do any good in his profession he must continue his studies further, and finds, even in a town of a hundred thousand or so inhabitants, no facilities for a proper study of the higher branches of his professional work. Hence in desperation, he resorts to coaches and correspondence schools.

The Union has decided to try to remedy this, and has called into consultation one of its honorary members eminent in architectural education. It is considered better to begin with one subject only as an experiment, and as architectural design is the subject in which the provincial man most often fails, that subject has been chosen. Without setting out to be an educational body, the Union proposes to establish a correspondence design club with periodical criticism at which those members who are sufficiently near London shall attend; to the other members a report of a general and particular criticism will be sent by post. This may be supplemented, if practicable, by a week or fortnight of the member's vacation being spent in real hard work in a central studio, and here the range of subjects may be enlarged. Many employers, it is felt, would arrange for their assistants to have an extra week for such a course.

Yet a third suggestion is to make one or two collections of drawings of every type in use in the professions—students' drawings; working drawings, rendered, coloured, and hatched; freehand drawings and sketches; rough sketches from the job or site; structural, detail, level, survey, ancient light and law drawings—every conceivable type in practical use of the very highest standard only, and to circulate these through the provinces for exhibition, accompanied by reasoned essays as to why they have been selected by those competent to judge. It is felt that if the man cannot come to the standard, the standard must be sent and explained to him.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of sue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR	
xcavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
abourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
avvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
imberman, 1s. 9d. per hour.	In underpinning, add 120 per cent.
caffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
atchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
roken brick or stone, 2 in., 7s. per yd.	Headings, including timbering, add 400 per cent.
hames ballast, 17s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
it Gravel, 17s. 6d. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
it sand, 18s. 9d. per yd.	Planking, 5½d. per ft. sup.
ashed sand, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
creened ballast or gravel, add 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
linker, breeze, etc., prices according to locality.	Do. 6 in. thick, 2s. 9d. per yd. sup.
ortland cement, 79s. per ton.	Puddling, 30s. per yd. cube.
o. in small lots, ex London stock, 100s. per ton.	Cement concrete, 4.2.1, 53s. per yd. cube.
ias lime, 64s. per ton.	Do. 6.2.1, 49s. 9d. per yd. cube.
acks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in upper floors, add 12½ per cent.
ransport hire per day:	Do. in ferro concrete work, add 20 per cent.
Cart and horse, 26s.	Do. in underpinning, add 50 per cent.
3-ton motor lorry, £6.	Lias lime concrete 41s. 3d. per yd. cube.
Steam lorry, 5-ton, £7.	Breeze concrete, 26s. per yd. cube.
Trailer, 30s.	Do. in lintols, etc., 4s. 9d. per ft. cube.
Steam roller, £4 10s.	
Water cart, 30s.	
DRAINER.	
abourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
imberman, 1s. 9d. per hour.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6-in. 14s. 6d., 9-in. 25s. 6d. per ft.
ricklayer, 1s. 11½d. per hour.	Note.—These prices include digging and filling for normal depths, and are avera prices.
lumber, 2s. per hour.	
atchman, 6s. 6d. per shift.	
toneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
ast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
ortland cement and sand, see Excavator above.	
ead for caulking, 49s. 3d. per cwt.	
asket, 1s. 9d. per lb.	
BRICKLAYER.	
ricklayers, 1s. 11½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
abourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
caffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
ondon stocks, 84s. 6d. per M.	Do. in blues, add 320 per cent. per rod.
Flettons, 75s. per M.	Do. circular on plan, add 12½ per cent. per rod.
taffordshire blue, 220s. per M.	Facings, fair, 3d. per ft. sup. extra.
irebricks, 2½ in., 223s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
lazed, salt, white, and ivory stretchers, £25 per M.	Do. picked stocks, 6d. per ft. sup. extra.
o. headers, £24 10s. per M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
olours, extra, 130s. per M.	Struck pointing, 4d. per ft. sup. extra.
econds, less, £1 per M.	Tuck pointing, 10½d. per ft. sup. extra.
ement and sand, see Excavator above.	Weather pointing, 4d. per ft. sup. extra.
ime, grey stone, 62s. per ton.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
ixed lime mortar, 24s. 3d. per yd.	Do. 1½-in., 5s. 10d. per yd. sup.
amp course, in rolls of 4½ in. 4s., 9 in. 7s. 3d., 14 in. 10s. 9d., 18 in. 14s. per roll.	Do. 2-in., 7s. 6d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte damp course, ½-in., 1s. 2d. per ft. sup.
	Do. vertical, 1s. 6d. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 10s. 9d. per yd.
	Do. skirting, 6-in., 1s. 5d. per yd.
MASON (INCLUDING SLATE).	
Mason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
Do. fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
Scaffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
Portland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. per ft. sup.
Bath stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. per ft. sup.
Mansfield red, 7s. 6d. (Usual trade extras for large blocks.)	Do. do. circular, 2s. 8d. per ft. sup.
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Circular-circular work, 10s. 3d. per ft. sup.
	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone, 25 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 2d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 10½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 78s., Countess 86s., Duchess 95s. per square.
Tiler, 1s. 10½d. per hour.	Westmoreland, in diminishing courses, 145s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 90s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 5s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 11d. per ft. approx.
Clips, lead, 9½d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 87s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 80s. per square.
Nails, compo, 56s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggie 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per sq.
Archangel:	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 93s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 29s. per sq.
Boards, 1st £71, 2nd £68. 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 108s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in., 3s. 3d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d., 1¼-in. 16s. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 81s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 4d. per ft.
Lead, milled sheet, 62s. per cwt.	Do. ¾-in., 3s. per ft.
Do. Drawn pipes, 62s. 6d. per cwt.	Do. 1-in., 3s. 6d. per ft.
Do. soil pipe, 67s. 6d. per cwt.	Do. 1¼-n., 4s. per ft.
Do. scrap, 30s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 10s. per ft.
Copper, sheet, 2s. 8d. per lb.	Do. 3-in., 10s. 9d. per ft.
Solder, plumbers, 1s. 6d. per lb.	Do. 4-in., 15s. 6d. per ft.
Do. fine, 2s. 4d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Red and white lead, 9d. per lb.	Do. 3-in., 2s. 8d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 5d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Do. O.G., 4-in., 2s. 1d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each.
	Baths only, with all joints, 37s. 6d. each.
	Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4½d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7¼d. per ft.
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing in beads, 21 oz. 1s. 2¼d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Cathedral, ordinary, 9¼d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 1s. 0¼d. per ft	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 65s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
Do. fine, 66s. 6d. per ton.	
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including mouldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 95s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
	Figured do. do. 7s. 9d. per yd. sup.
Turpentine, 10s. per gall.	French polishing, 1s. 9d. per ft. sup.
Liquid driers, 20s. per gall.	Stripping old paper and preparing, 2s. per piece.
Knotting, 29s. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.
Petrifying liquid, 3s. 6d. per gall.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Double size, 7s. per firkin.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup
Pumice stone, 9d. per lb.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per ton.
Erector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt.
	Fixing only corrugated sheeting, including washers and driving screws, 1s. 5d. per yd.
Cast-iron, heavy	
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £40 per ton.	
Do. Galvd., £57 per ton	
Corrugated sheets, black*	
Do. Galvd., £55 per ton	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 2s. 10d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 4s. 7d. per yd. sup.
Do. corrugated, 6s. 3d. per yd. sup.	Do. do. corrugated, 8s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ⅜-in. thick, in plain colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 5s. 6d. each.
Do. in metal frames, 3s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £23 10s. red £25 10s.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square, grey 66s., red 67s. 3d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	
R.W. gutter, 4 in., per yd. 1s. 10d.	Gutter-fixed, 1s. 4½d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	R.W.P. fixed, 1s. 9d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.

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Our Small Advertisements

A number of vacancies in the architectural profession and the building trade, together with a number of other interesting announcements will be found on pages xxx. and xxxi.

Architectural assistants are required for a London office; a junior assistant by Mr. Reginald T. Longden, of Leek; two first-class junior assistants, with housing experience; and an architectural draughtsman is required by Mr. S. C. Foulkes, A.R.I.B.A., of Colwyn Bay.

The Southampton Corporation have vacancies for a quantity surveyor and accountant at a salary of £350 per annum and for a junior architectural assistant at a salary of £104 per annum.

A clerk of works is required by Messrs. Brierley and Rutherford, architects, of York, for new racecourse buildings, and carpenters, bricklayers, and plasterers are wanted by Messrs. H. M. Grant, of Birmingham, for large housing schemes.

An architect, with small country practice, desires partnership with a firm of country architects with offices not too far from London.

Two large rooms, at an excellent West End address, are to be let for use as art studios.

Tenders are invited for the erection of ten houses by the Farnham R.D.C. and for the erection of eighty-four houses by the St. Columb R.D.C.

The Ministry of Munitions on March 3 will hold an auction sale of valuable and extensive buildings at Shoreham Camp, Sussex. The Ministry are also about to sell by tender two steel buildings, suitable for factories, workshops, garages, etc.

Trade and Craft

Advertising.

The Ernest Ingram Hill Advertising Service, of 29, Ludgate Hill, London, E.C.4, have just issued an interesting booklet, which is full of good advice for both the small and large advertiser. Useful hints are given as to the method which should be adopted to secure maximum results, and the advantages to be secured by a well-planned advertising campaign, backed up by a sound trading policy, are clearly shown. Advertising in these days of reconstruction is undoubtedly the business of the expert, and a clear explanation is given of the manner in which the service can render the greatest assistance in this direction. The booklet, which may be obtained free of charge from the service, also contains a number of admirable specimen advertisements, and sets out in a convincing way the activities, policy, and terms of the company.

Economy in Building Schemes.

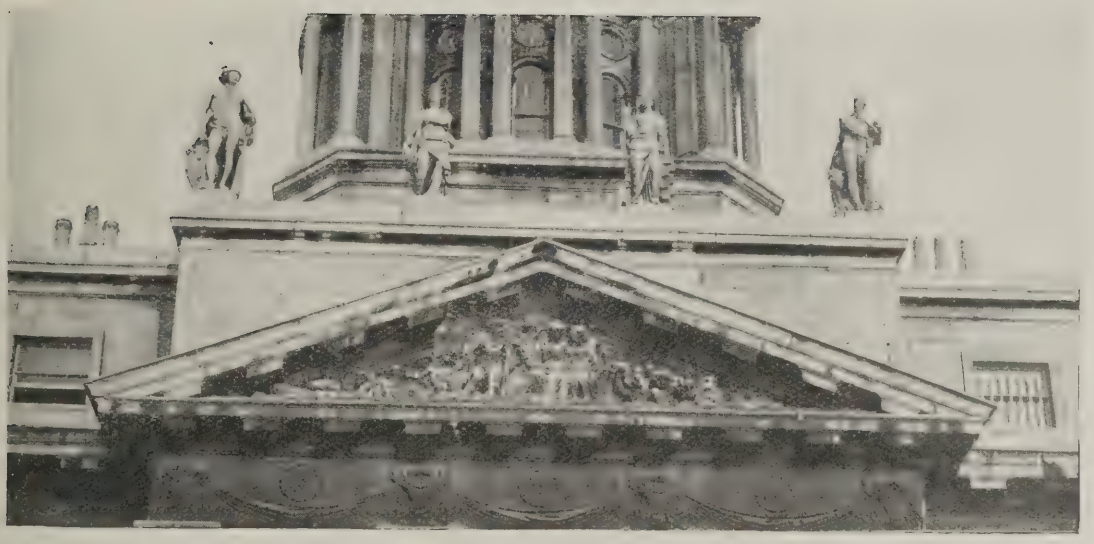
The problem under consideration in this month's number of "A Thousand and One Uses for Gas" is another of the many which require solving in relation to the numerous housing difficulties which confront the country. This issue (No. 71) consists of two parts, the first by Mr. John Murray, F.R.I.B.A., who proposes to eliminate chimney breasts and chimney stacks by the use of gas for fuel. The second part, also illustrated, deals with built-in gas fires and with the special chimney flues as in Part I. This section is contributed by the housing experts of the B.C.G.A. Copies may be obtained, post free, from the British Commercial Gas Association, 47, Victoria Street, S.W.1.

ednesday, March 3, 1920

Volume LI. No. 1313

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



THE CUSTOMS HOUSE, DUBLIN, SCULPTURAL DECORATION.

GANDON, ARCHITECT. EDWARD SMITH, SCULPTOR.

When Gandon was preparing details for this building he asked Carlini to furnish sketch models for the sculpture and ornament. Eventually he became acquainted with a young Dublin sculptor, Edward Smith, whose charm of manner no less than his exceptional ability decided the architect to employ local talent. The technique of Smith's sculpture and ornament is unrivalled, and endows the architect's work with the charm and naiveté which is the attribute of the masterpieces of the Italian Renaissance.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 2.—The Proprietary Library, Plymouth

John Foulston, Architect Alterations by Wightwick

Foulston's Greek front was Italianised by Wightwick. In this decidedly strong design, the disposition of the windows is admirable; the difference in size between those above and those below producing a noteworthy effect in the composition.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, March 3, 1920 Volume LI. No. 1313

The "Ideal Home" from Within

AMID all the talk about ideal homes for the people there has been little or no mention of internal decoration. Yet a home, fine in all other ways, can be spoilt by bad taste expressed in decorative discords. Few among us have the ability to strike the exact note which alone can give harmony and cohesion to the furnishing and colouring of the rooms in which we live. Yet this matter is of some importance. Colour has more in it than an appeal to the eye.

The influence of beauty is far-reaching. In music it is well known. In its relation to house decoration it is not. No one denies the need of houses gracefully designed, pleasing in line and tone. Every man likes to show a fine front to the world. But it does not seem to him that it is even more important to make sure that the inside should be at least as good as the outside. The outside he will see at most a few times every day, but with the inside of it he has much to do. There he spends a great part of his life. So the internal decoration concerns him closely. That is why it is surprising that he troubles so little about it. He will cheerfully accept the latest atrocity in wallpapers and decorate their floral insipidity with chromo-lithographs or family groups. We wonder that the doctors have not before now banned the fashionable wallpapers which must, by their irritating riot of colour and detail, seriously retard the recovery of influenza patients. There is nothing more annoying than the latticed floral design to anyone doomed by illness to no better occupation than counting the number of flowers on the wall. We hope that in the new houses for the people this modern kind of terror will have no place. Far better are plain walls distempered in restful shades or papered in greys or browns. Distempering may cost in the first instance more than papering, but in the end it is cheaper, as it is certainly more healthy.

Brown paper is the cheapest form of wall decoration, and it lasts much longer than the ordinary wallpaper. We know of one case where a well-known artist had his dining-room treated in this way seventeen years ago, and the paper is now as good as ever. All that has been done to it has been the cleaning of it from time to time with bread-crumbs. Though the choice was purely on artistic grounds, it is an interesting fact that the paper only cost about ninepence a piece. Yet house-owners and tenants will cheerfully pay from four to six times the price for a result that artistically is appalling. If good taste were very costly no doubt many people would pay to get it. The fact that it costs no more and sometimes much less to achieve beauty apparently puts a premium on ugliness.

The colour note should be chosen, of course, with discretion. It is well known that a small room can be made to look bigger and a low one higher by the judicious use of light papers or paint. The point of the compass must always be borne in mind in deciding on the scheme of decoration. A cold room wants warm tints. A brightly lit room looks better with more subdued colourings. Each room needs skilled and special treatment. The true artist will study aspect, light, dimensions and use before drawing up his plans. Yet he will follow certain general rules which govern all sound schemes of decoration. Neutral tints for the walls will be one of them. It gives the designer more freedom and allows for changing the colour note of the room at will. The floor covering, too, will have no definite tone. The colour note will be obtained by the proper use of cushions, casement curtains, ornaments, pictures, and flowers. In this way the tone of the room can be altered when desired. This is well worth while, for the warmth of tone which is called for during the dark winter months may prove too garish for the bright days of summer. We mention casement curtains because we feel that the long lace curtains of Victorian days should have no place in the modern house. They gather dust, they keep out light, and they are an ugly relic of an inartistic past.

Another rule which we think has been too long neglected is that overcrowding, both in furniture and ornaments, should be strictly banned. It is usual in English homes to find the space that should be free taken up with useless knick-knacks and odd bits of furniture. We wonder if the proud housewives realise how much extra work it means to them and how much harder it makes the task of keeping the place both tidy and clean. As far as possible furniture should take the form of fixtures. In American dwellings many of the expensive movables our English folk burden themselves with belong to the landlord and are part of the fittings. This is not only a question of artistic fitness. Our chief interest in the matter is concerned with the saving of space. Spaciousness in the home is a fine asset both for health and æsthetics. Yet how rarely is it to be found? In the houses now building for the workers there will not be too much room. It is all the more important that all that art can do to add to it by the wise use of colour and the careful, even ruthless, removal of unnecessary impedimenta should be done. Unfortunately, the tendency of the average family is all the other way.

To crowd the already decorated walls with bad oil paintings in oppresive gilt frames may advertise the length of a man's purse, but it spoils his room. A good print, which can be bought for a small sum, is a much finer decoration if placed against a neutral tint and given plenty of room. A beautiful vase—and many cheap vases have charming lines—looks better in splendid isolation than a mixed collection of expensive and over-elaborate ornaments. Simplicity, space and restful colourings are the making of a room. Restfulness should be the key-note of every home. Harmony should be its spirit, simplicity its guide. In its colour scheme can be found restfulness and harmony. In its gracious self-restraint and its sense of spaciousness you will get simplicity. Such homes will be worth living in, for they will prove an enduring inspiration. They will be homes not only to live in, but to live up to, and those, after all, are the sort of homes we want, are they not?

CROSSLEY DAVIES.

Notes and Comments

Architectural Education

IT was not to be imagined or desired that everybody would agree with all the opinions, or any of them, expressed in our article on "The Institute and Architectural Education." Mr. Lionel B. Budden, from whom a letter on the subject appears on a later page, opposes our observation that nobody rose to the occasion, or got to close grips with the subject. That is still our view of the debate, notwithstanding Mr. Budden's disclaimer, and after careful perusal of a full report of the admirable speech he made in the course of it. For, while Mr. Budden outlined with great clearness and force a really constructive policy of reform, it does not necessarily follow that his "close grip" was sufficiently comprehensive, or that his outlook swept a sufficiently wide horizon. His proposal to organise architectural education on the working model of the medical profession is very good as far as it goes, but because it does not go far enough, and because it does not seem to realise the immense magnitude of the subject or the great variety of interests involved, we do not feel altogether justified in excluding its author from the general criticism that nobody really revealed an adequate conception of the immensity and momentousness of the issues at stake. He deserves, however, every credit for his further gallant attempt—the latest of several fine efforts—to lay a solid foundation for the reform which we all desire, and for which he in his way and we in ours are working with equal earnestness. Quite obviously the issues involvel are too vast to be dealt with at all adequately in a discussion such as that which we criticised; and Mr. Budden's proposals for reform, being unquestionably of great intrinsic value, might be adopted as the basis of a still more comprehensive scheme, to be drafted by a competent mixed committee after thorough investigation.

Art and the Manufacturer

When Sir Frank Baines condemned so sweepingly the designs in manufacturers' catalogues, he did not take into account the difficulties of the position. They were not within his purview, and none of the manufacturers who listened to his complaint brought them to his notice. One reason why applied art does not reach a higher general standard is that the manufacturer finds it more convenient to hire a designer to work on the premises for a regular wage than to bargain with outside artists. Of course, a really authentic artist in design can command a high price for his work. What is more, when he achieves a specially good design, he often prefers to retain his interest in it. Hence, where an outside artist is engaged, awkward questions of rights and royalties are apt to arise, complicating the manufacturer's business to an unendurable extent. He therefore prefers to maintain a hireling, who may or may not be an excellent artist. Often he is that; but too often he is the uninspired mechanical craftsman whose "atrocious" designs disfigure the catalogues that scandalise Sir Frank Baines. We believe that such catalogues are now much more rare than they were a decade ago, and that the supply of competent art-craftsmen has been and is being greatly augmented through the excellent art-classes that are coming into existence all over the kingdom. Elementary-school children who show artistic talent are now given a chance of developing it at schools of arts and crafts, and as soon as this system of encouraging talent that was formerly wasted begins to bear fruit a marked improvement in applied design will become manifest. Talent and taste being by no means inseparable, the talented child who is uninstructed may grow up to perpetrate clever monstrosities in design, and fill catalogues with them; but the new schools are refining and restraining this exuberant cleverness, and turning it to decorous uses.

A Belgian Monument of Gratitude

If the monument that the Belgian community in this country desire to erect on the Victoria Embankment materialises in the full beauty of the conception, it will be a notable addition to London's outdoor statuary. Sir Reginald Blomfield has designed the architectural setting from M. Rousseau's group which will comprise a figure symbolical of the genius of Belgium leading a young man in whose path a maiden strews roses. Bronze panels will show figures of Honour and Justice, and the shields of eight Belgian provinces will be carved on stone. The London County Council have granted a site in the gardens opposite Cleopatra's Needle, but we feel that so noble a monument as this will surely be, should be accorded a more prominent site.

"Safety First"

Excellent speeches were delivered at the first annual dinner of the British Industrial "Safety First" Association, at which Lord Leverhulme presided last week. Not the least happy of them came from the chairman, who, like the Right Hon. G. H. Roberts, laid stress on the application of the principle of "safety first" to the State as well as to the individual. To take from the individual, through an accident, the power of earning money involves loss to the State; and, said Mr. Roberts, people sometimes acted in a way that would endanger the State, not because they desired to endanger it, but because they did not know better. And, again, the principle is implied in the truth that it is only by high productive activity—that is, by hard and effective work—that our country can shake itself free from the shackles of debt. With respect to the purely physical bearings of the "safety first" movement, it is obvious how great an interest in it is shared by the building industry. Most accidents arise from carelessness and want of thought; and the formerly very numerous scaffolding accidents, for example, have been greatly reduced in number by the adoption of precautions that should have been simple and obvious, but were only observed when Parliament made them compulsory.

Mr. Henry T. Hare's Portrait

That was a most felicitous speech Mr. Arthur Keen made in adding the portrait of Mr. Henry T. Hare to the Institute's interesting collection of counterfeit presentments of past Presidents. One can most cordially agree with Mr. Keen that the subjects of the collection "had devoted abilities of a high order to build up an organisation which, despite all criticism, at the present time possessed dignity and authority and power." True it is that, almost without exception, the Presidents have been splendid Fellows, and not the least of the illustrious line is he whose portrait is the latest addition to the gallery. Mr. Keen's verbal portraiture of him was, in its way, as faithful as Sir William Llewellyn's brushwork. Mr. Hare's good-nature and kindliness, combined with his fine judgment, had gained him the esteem of his fellow-members; yet presidents were not appointed for the affection borne them, but on their capacity to represent adequately the interests of the Institute; and Mr. Hare has a fine record, whether as exemplar in the design of public libraries, for which he had set a most excellent standard, or for his great influence in lifting the system of architectural competitions on to a higher plane. The President's word of gratulation was as true

as terse—Mr. Hare had fulfilled his duty with the highest degree of conscientiousness, and was eminently a common-sense President.

Regent Street Quadrant Once More

What of the Regent Street Quadrant? Rumours of what is likely to happen to the premises that have been acquired by Harrods from Messrs. Swan and Edgar pique curiosity as to the fate of a report which a Big Four of architects have made to the Government, and as to whether the proposals in it are likely to be affected by the new conditions that have arisen. Governments have a very dilatory habit of pigeon-holing reports until they become obsolete; and we are sure that the report of the Big Four deserves a better fate. Rather than it should smoulder in dusty archives, one would prefer to see it at the centre of another controversial storm, with all the old pros and cons for architectural versus shopkeeping ideals raging round it like a whirlwind.

Inconvenient Early Closing

The simultaneousness of our public buildings is appalling. Their closing time seems designed to synchronise with that of the architectural office—when the architect is not working overtime. The museums at South Kensington and Bloomsbury shut too early to be of any use to the professional man. So far as he is concerned, they might as well be abolished. So with the Patent Office Library. It used to remain open until ten o'clock at night, to the great advantage of research. Now it closes at five. There is no earthly reason why these institutions should not be open at hours which would give the worker a chance to use them. No hardship need be inflicted on the staff, who could go on duty in shifts. To close early may be economical of gas and coal, but it is wickedly wastful of the treasures to which the young architect, for instance, is foolishly denied access.

University Chairs and Buildings

If the linking up of the various architectural schools into alliance with the universities is a serious proposition, its advocates will find themselves confronted with a serious financial difficulty. To found a Chair in any subject a good round sum is required. Thus Sir Ernest Cassel's offer to the London University of £150,000, producing £7,500 a year, is to provide three professorships—one in banking and currency, one in foreign trade and accountancy, and one in business methods, as well as paying for teaching posts in connection with the new degrees in commerce. Again, Manchester University is appealing for £500,000 for the buildings, equipment, and teaching endowments rendered necessary by the growth and expansion of the University, and it stated that each new professorship means an endowment of £14,000 to £20,000. Nor can the endowment of new Chairs go on without taking thought for the accommodation. At Manchester, new buildings for the Medical School will cost at least £100,000 and a new metallurgy department will hardly be built for less than £20,000. These figures are adduced not to discourage the idea of linking up architectural schools with the universities, but as some slight indication of the monetary aspects of the problem, which will have to be faced with courage and determination. Fortunately, the practical turn that is being given to university education, by the inclusion of degrees in architecture and in commerce, and so forth, is loosing the purse-strings of wealthy business men, so that the more businesslike university of the future is not likely to languish for want of funds. If these instutitions justify their existence by producing a more efficient type of professional and business man, the present buildings must be extended, and new ones may be expected to spring up everywhere—even in London, which is still without its university building.

Mr. Hambidge's Measurements

Intensely interesting though it undoubtedly was, Mr. Hambidge's paper, read at the Institute last week, did not, one may imagine, make many converts to his theories. His facts, however, are indisputable. He has been at great pains to gather them, and they prove his uncommon power of patient research, even if they fail to show that the proportions he has found to prevail in beautiful buildings were designed deliberately and mathematically, instead of being coincident and spontaneous expressions of the sense of beauty.

"Garden Cities and Garden Suburbs"

Under this heading "The Times" insists on the necessity for discriminating between the garden city and the garden suburb. It contends, justly enough, that the difference is fundamental—that "garden suburbs represent an extension of the daily traffic of a great town to a more distant circumference; garden cities a permanent transference of a section of the population to a less crowded centre." To the readers of this Journal, the distinction is familiar enough, but this terse expression of it will help to dissipate the haze that besets the general public.

Unemployment Insurance

As being almost the largest employers of labour, master builders will have followed with great interest the debate on the second reading of the Unemployment Insurance Bill in the House of Commons on February 26. Labour in this industry being necessarily mobile and casual to an exceptional extent, as well as being largely dependent on the weather, the industry has suffered more than any other from the evils of unemployment, and from the effects of capricious dismissal or withdrawal on short notice. These conditions cannot but tend to carelessness and inefficiency among workmen, and it is not apparent that the certainty of receiving unemployment pay will be an incentive to the workman to do better or to be less prone to down tools. Further, those trade unions that run unemployment benefits are confronted with an obvious temptation to transfer this burden to the State, and thus to gain greater strength for fighting. On the whole, we do not think that employing builders will welcome the Bill. But why cannot we have a real Parliament of the building industry, in which all interests could be united for the discussion of problems such as that raised by this Unemployment Insurance Bill?

Housing and Health

Sir James Galloway's report on the results of the medical examinations held under the Compulsory Service Acts, should have a powerful influence on the housing movement. He makes the startling statement that ten per cent. of the men in Great Britain under forty years of age were of such miserable physique as to be totally and permanently unfit for any form of military service. These figures, it is only fair to remark, refer only to that section of the young men who had remained at home while the more robust in body and spirit had voluntarily joined up. Nevertheless, they are lamentable beyond words. As a commentator has olready said, "The number of partially and wholly unfit is disgracefully large, and we can see that it is largely owing to districts in which housing conditions are bad, and to trades in which no sufficient regard is paid to the health of the worker." Well is it, then, that housing is in charge of the Ministry of Health. The more that is spent on housing, the less the waste of humanity, the less the need for asylums, hospitals, and jails, and the greater the efficiency of the workers. The expenditure on good housing, burdensome though the amount may be, will yield a really profitable return on the investment; and all merely sordid considerations should be completely wiped out by the mere humanity involved.

Architectural Causerie: Garden Ornaments

OTO be in the garden, now that March is here! Now that March is here some few grandees consult architects, sculptors, and gardeners to establish replicas of the gardens of Malmaison, Bagatelle, and Hampton Court; while other persons, less liberally endowed with wealth, seek counsel from the local oracle.

It is astonishing what a lot of useful information can be gleaned from an old gardener loving well his ancient craft and not too shy to talk about it. Gardeners as a body are conservative. To a greater degree than ordinary mortals they follow tradition, which is often an inheritance; for it is usual to find that a man has adopted this particular business because his great-grandfather was in charge of some eighteenth-century garden. Such a man I hold in awe. His authority has the strength of instinct. Reason and argument shall not prevail against him. Chatting to a jobbing gardener the other day on the gardening ritual to be observed in March, I was impressed with a species of jargon handed down from father to son; but that it contained very sound advice I doubt not. Gladly would I pass it on, but that I have some doubt of its architectural validity. And so, "Thank you, gardener; and now I will walk round and dream of garden ornaments, for I have a taste for good gods and goddesses."

* * *

Most of the great English gardens, and also those of the Continent, are familiar to sight as well as from hearsay. We visit the sunk garden at Hampton Court. We relish the terrace stagings of Bowood, in Wiltshire, or recall the delicious glades of Malmaison, beloved of Josephine. All old gardens, formal or landscape, designed by Evelyn or Capability Brown (but alas! not those by Loudon) have a peculiar charm and restraint. How pleasant are the memories of thatched arbours, of sundials with mottoes (the quainter the better), sculptured vases, temples, statuary—everything designed with taste, and, of course, in keeping with the great house, and therefore nothing superfluous. Even the modern lawns and herbaceous borders of suburban homes have a distinction impossible to gardens planned with tee-squares and compass. Now, it is common knowledge that our American cousins know how to plan the average-sized country house. Mr. Platt understands how to arrange a garden, for he is an artist; but, in the matter of garden planning it is impossible to accept all that occurs on the other side of the Atlantic. We have no use for miniature bridges with summer-houses on the crown of the arch, nor for steps leading nowhither, nor for fountains that throw water from the company's supply, nor for cement figures from Chicago, Ill.

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In these days, when the energies of our legislators are directed towards finding ways and means of increasing taxation, it would not be a bad plan to tax bad art. A start might be made with superfluous sculpture. Just as our ancestors hastened, when the window tax was enforced, to cut down expenses by blocking up windows, so we should begin to clear away the inhuman sculptures —lions, tigers and the like—from the façades of our most recent buildings. In the event of these undesirable stone trophies reappearing in the form of back garden disfigurements, further fines could be imposed to swell the coffers of the exchequer. This in passing.

* * *

When the eighteenth century was nearing its close, the craze for classical design shed its influences on the gardens of all and sundry. No sooner had the fastidious Henry Holland settled the accounts for Southill, in Bedfordshire, than a whole army of heathen gods, all done in cement, descended upon the avenues, grass plots, and alleys surrounding the stone palace. Ancient satyrs, fauns, dryads, and wise gods came into their own, ponds were dug and fish installed to create spheres of influence for leaden Neptunes. Avenues of elms were planted with a temple at one end of the vista and a cement Diana with an iron bow at the other. In vain did Mrs. Coade, with her manager Seely, stoke the furnaces of the Lambeth Pottery with intent to meet the demand for well-designed deities; the modellers of the Oxford Road and Hyde Park Corner won hands down.

* * *

Where are the majority of those gods and goddesses now, Some are headless and buried in obscure shrubberies; some have crossed the Atlantic; some are in museums. Time was when every village in England boasting a great house, could speak with pride of the pagan gods owned by the Squire. The mere citizen in his country box designed by the ingenious Mr. Plaw had at least one god in the garden, even though he could not understand the differences of Tiberius from Trojan or Hercules from King Midas. In those spacious days of Greek and Roman gusto, every nobleman had a collection of garden gods. How those eighteenth century "men of taste" loved pompous display, if only to show off their classical knowledge! Few remained content with a shapely sundial in the garden or two or three vases. Off they went to Roubiliac's yard in St. Martin's Lane there to admire statues of Fame and Fortune before drinking coffee at Slaughter's.

We architects have a secret admiration for the work of our sculptor friends, and occasionally we venture to drop a hint to the workers in stone and marble of our likes and dislikes. One architect, who shall be nameless, opines that Flaxman was the greatest sculptor of his age because he introduced figures on the black wedgwood teapots. For myself, I can admire the bronze compositions of Bacon, who worked according to recipe, and piled diverse motifs in pyramidal formation and although I may be condemned as a heretic for making the shocking confession, I will adventure the opinion that Thorwaldsen and Canova were not entirely devoid of taste.

* * *

A few gods and goddesses are essential to the scheme of a garden purely, let it be understood, for decorative effect. We have no grudge against the client who desires to place a piping Pan in a grove, a Naiad rising from a lily pond, or a number of terns to foil the sweep of a yew hedge. If we are to admit a few pagan gods to the precincts of our English gardens let them be, in the words of James I. to his Admiral Kenelm Digby, "good goddes," and not the cement idols of nameless thoroughfares. Hurrah! the manufacturers of mediocre stone images are fast dying out. Euston-road has lost its glory—the terra-cotta maidens of St. Pancras Church are no longer annoyed by the proximity of false gods done in cement. Lately there has appeared a particularly atrocious garden figure—to wit, a small boy carrying a basket above his head, and, as a concession to Mrs. Grundy, wearing tight trousers of nautical cut. Away with such fooleries, and more power to the chisel of sculptors and statuaries!

AERO.

Modern Ecclesiastical Architecture. 3.—Liverpool Cathedral: View from Hope Street

G. Gilbert Scott, A.R.A., F.R.I.B.A., Architect

Photo: Stewart Bale, Liverpool.

The foundation stone of the cathedral was laid by the late King Edward on July 4th, 1904. The tops of the dwarf stone spires which surmount the towers are 150 ft. from the floor-level, and the two towers are connected by a walking-way immediately above the east window. These walking-ways—of which others are seen in the photograph—are, with their traceried balustrades, an enlivening feature of the elevation. This view shows the present condition of the work.

Some Interesting Southampton Buildings

THROUGH the courtesy of a Southampton resident, Mr. Hodges, we are enabled to show some illustrations of buildings erected when the famous seaport was but a quarter ; present size.

In High Street is the Audit House (p. 280), which, with veral modern buildings, forms the only civic centre the town. From the viewpoint of minor architecture the late eighteenth century, this building is of in-rest, primarily because its composition was the proto-pe of much of Crunden's work, and it forms besides a ood example of what the suggested designs this archi-ct published would have looked like in execution; and condly because it recalls Boodle's Club in St. James's reet, which is stated on the unimpeachable authority Malton to have been the work of Crunden. Unfor-nately the original idea of an open market beneath e Council Chamber has been marred, and the space rmerly devoted to this purpose has been partially ap-opriated to offices, so that with the exception of the h market, which occupies the original position at the ick of the building fronting French Street, it is difficult follow Crunden's scheme.

The erection was brought about in the following anner: In 1771 land was acquired for the building id a letter forwarded to the architect, then residing at olton Street, Piccadilly, asking him to undertake the mmission. The work was completed with expedition, id for over a century was left undisturbed; but alas. e vandal hand did not spare it. Crunden's staircase as been demolished, but the Ionic columns, with rich ecoration gaily tricked out in gold, remain as evidence the taste of the Macaroni period. These remarks pply equally to the embellishment of the Council hamber, and enable us to form an estimate of the bility of an architect who flourished at a time when the dams were claiming the attention of the public; and hen even the work of Leverton in Bedford Square assed almost unnoticed or was credited to the wrong and.

Thorner's Charity, Above Bar Street, is an interesting oup of almshouses, the composition of which suggests idea for the grouping of modern cottages.

With their neat gardens and prim stock bricks, the ildings reveal very clearly the town's appreciation of e funds left for the purpose of housing the needy.

Finally we come to a view of All Saints' Church, owing the exquisite cupola designed by Willey Revely, a pupil of Sir William Chambers.

CUPOLA OF ALL SAINTS' CHURCH, SOUTHAMPTON.
WILLEY REVELEY, ARCHITECT.

From a study of the minor features of the English Renaissance we are enabled to follow the meaning of the tradition as a whole. The sequence of the tradition is made clear, and what at first seems complex becomes plainly apparent. We cannot assert too emphatically how rich England is in dignified vernacular buildings, every town containing a variety of excellent models upon which modern ideas can be based.

THORNER'S CHARITY, SOUTHAMPTON.

Why Blame the Architects?

By Major H. BARNES, M.P., F.R.I.B.A.

AT the recent Exhibition at Olympia, the Royal Institute of British Architects were responsible for a series of conferences which took place on the first two days. At the first of these, Dr. Addison, the Minister of Health, who is responsible to Parliament, and through it to the country, for the administration of the Housing Act, made a speech. Any speech of Dr. Addison's on housing merits attention, and gets it. The theme of his speech was the hindrances that had been placed in the way of the solution of his problem by the action of architects. Their deficiencies, their idiosyncrasies, were both touched upon. In other words, Dr. Addison unloaded on the architectural profession some portion of the burden of blame to which by now he should have become indifferent. If in this article an attempt is made to frustrate that effort, the writer does so feeling that, after all, there is little wonder he should make it.

There is perhaps no man in this country engaged upon an administrative task who has been the target for so much unmerited criticism as the Minister of Health. He is the last man who would claim to be perfect or infallible, and would be the first man to admit both the possibility and the actuality of administrative mistakes, and even blunders having been made by his Department. From the outset of his task the writer has been of the opinion (and still holds to it) that no Minister would have devised a better administrative scheme or have been more unwearying in his determination to carry it through.

One has had some experience of the apparent confusio and delay in the preliminary stages of a great admini trative task, taking in its field the whole country, ar therefore is satisfied that only a little time need elapse justify the Minister of Health and to put to confusi a good many of his critics. The criticism one unde stands least is the criticism directed against hi by some architects for his apparent neglect in the earli stages of his task to call in the assistance of priva enterprise. Private enterprise in the provision working-class houses means in the first place the elimin tion of the architect in any real sense of the word. T surveyor who is the agent of a building estate has, course, derived an income from his fees on the cost construction, with some sporadic guineas arising fr the activities of the most juvenile member of his st on tracing and retracing the stock plan of the estat but the architect qua architect has never been called to this task, and there can be no hesitation in sayin as a balance to the criticism about to be offered, th the architectural profession owes a debt to the Minis of Health for a policy by which for the first time t experience, the skill, and the taste of the professi have been employed on the design of houses for t working classes.

Let it not be forgotten that the demand for housi has been directed not merely to the provision of shelt but to the embodiment, in the erections needed, of ide and qualities which in the past have been conspicuou absent. For this the profession owes a debt (only

THE AUDIT HOUSE, SOUTHAMPTON. CRUNDEN, ARCHITECT.

Architectural Designs. 3.—Courts of Justice (Rome Scholarship Competition)

By F. O. Lawrence

The above detail is from one of the five sets of designs which have been selected for the final competition for the Rome Scholarship in Architecture. Mr. F. O. Lawrence, it will be seen, shows considerable resource in the arrangement of Neo-Classic motifs. Other designs were illustrated in our last issue.

om recognised) to the National Housing Reform ociation and the Garden Cities Association. Their eer and propaganda work have been the main, if the only, causes of the demand for superior housing mmodation, which it is the business of the Minister Health now to supply, but if they have sown the , it is the Minister of Health who has watered it. has proved himself accessible to the best ideas that sing reformers could bring to his notice; and who- may attack him, whoever may criticise him, the persons in the world to do it should be the members e architectural profession.

Position of the Architect

Vith this preamble, we proceed to a criticism offered he friendliest spirit, and only advanced as a conse- nce of the remarks the Minister made at Olympia. Minister of Health is a professional man, and it ht have been reasonably expected that he would regard to the interests of the professional man. He ngs to a society the doors of which are rigidly ed except to those who undergo certain tests. Upon fringes of his profession there may hang a crowd of iricists, but in the main the services they are called o render are allocated to those whose qualifications been certified. Probably the Minister of Health did sufficiently appreciate the fact that the first factor in problem was design. This may seem an extreme ement in view of the fact that he appointed Mr. Ray- d Unwin as the principal architect in his department; while this insured that such plans as were submitted ld meet the criticism of perhaps the ripest judgment uch matters, it did nothing to insure that such plans ld be prepared by men who would bring to their task necessary qualifications. It is clear from the outset the successful solution depended on bringing the itect in, but the most obvious steps for securing this , in my opinion, not taken. One can appreciate the culty of the position. The Government had imposed business of housing upon the local authorities. That g so, it was obviously desirable to interfere in the llest possible degree with their freedom of action. the local authorities concerned had in their service eyors or engineers, some few had architects. With- in the slightest degree discounting or disparaging the lifications which these surveyors and engineers bring e discharge of their normal duties, it is only fair to that the profession and practice of architecture does fall within that definition. The obvious temptation e local authority was to reduce its costs by employ- such technical assistance as was already on its staff. result has been that all over the country many scores ousing schemes and house plans have been prepared submitted by surveyors, who had not the necessary erience and skill. This has resulted in enormous y. The very able architects employed both in the artment in London and in the Housing Commission ces have been, in many cases, compelled to make revisions in these plans as were tantamount to re- ting them. To put it briefly, the task which was an itect's task has been undertaken by many men who not architects, and the consequence has been delay.

Employing the Wrong Men

hen, again, owing to circumstances too many to be iled in the limited amount of space at my disposal, e are men practising as architects to-day who have r had the necessary training, and do not possess the lifications which are required to make an architect. reasons of economy, many of these have been loyed, especially in the smaller areas, and their work ng below the standard rigidly insisted upon by the istry has occasioned revision and delay. The Minis- made no provision of any practicable moment for ring an adequate supply of competent architectural stance in the preparation of the necessary designs, and it is not for the Minister to-day to complain if the result has been delay, when time was of the very essence of the contract. It may be asked what course he should have followed: to that there is no difficulty in giving an answer.

There exists in this country an organised body of architects—The Royal Institute of British Architects—with its allied societies covering the whole country. Side by side with this exists the Society of Architects, and it is safe to say that for all practical purposes everything but a negligible portion of the architectural ability of this country is comprised within the membership of these two societies. In the writer's opinion, the relationship between these two bodies must become more intimate—whether amalgamation or federation is, perhaps, unimportant. The thing which is pertinent to the present criticism is that they are in existence, that they are at the disposal of the Minister of Health, that they were willing to help him, were anxious to help him, and offered to help him, but were not as organisations employed by him.

The Example of the Builders

It is easy to talk after the event, and it will be recognised that the present writer is certainly one of the most friendly critics the Minister is likely to have, but when he blames the profession for what the profession as a whole were never asked to do, it is necessary to point out the inadequacy of the steps he took. He has grown wiser as his work has proceeded, and now it has come to building he has abandoned his reliance upon the individual. He has sought the assistance of the builders as an organised body. He has induced, if not compelled, local authorities to abandon individual competitive tendering, and to accept from the Federation of Master Builders an allocation of the work the local authority requires the builders to perform. If the method the Minister is employing with the builder for the execution of the designs that have been prepared had been employed with the architects for the preparation of the designs, he would have had no reason to complain of delays caused by the work having fallen into the hands of those who are incapable of carrying it out. Had he called into conference the Royal Institute of British Architects and the Society of Architects, as he has called the National Federation of Master Builders, and as it may be hoped he is calling the National Federation of Building Operatives, and had he said to these great Architectural Societies, "The task before me is that of securing the best designs for the enormous number of houses; I want your assistance in this task. I want you to help me and the local authorities by allocating this work amongst your members so that on the one hand it shall not fall into the hands of incompetent practitioners, and on the other hand shall not become congested in the hands of a few": he would have secured not only the hearty and enthusiastic support of the great profession whose services were fundamental to his task, but he would have got a rapidity and efficiency of execution that would have saved him very much of the criticism which has since been his lot.

Individualism or Common Action?

It may be that some strong individualist will in his turn criticise this proposal. One is not much concerned. For the free architect, the free builder, the free workman, in the sense in which freedom means the refusal to co-operate in common association with one's fellows in securing the best performance of common tasks and the achievement of common ideals one has little use. The day has gone for dispersive effort; the time has come for united and common action; and one's criticism of the Minister of Health within at least this question of design is that he has preferred to rely upon the former rather than upon the latter.

Proportion in Greek Design

At the meeting of the R.I.B.A., held at 9, Conduit Street on Monday, February 23 (Mr. John W. Simpson, President, in the chair), Mr. Jay Hambidge read a paper on "The Theory of Proportion in Greek Art, with Special Reference to Architecture." He prefaced his paper with some remarks on the criticisms with which his address before the Hellenic Society on his theory had been received, and said that when he was charged with knowing nothing about art that was no news to him. He asked to be allowed to leave art alone for the moment and devote attention to design. He suggested they should deal with things they understood and devote their energies to building up a magnificent craftsmanship, because that was the only foundation for art expression. He suggested that his critics should go to such places as the British Museum and measure the works of Greek art there and test his theories, and said he was glad to announce that the authorities of the British Museum had undertaken to secure the measurement of at least 75 per cent. of the finest examples of Greek craftsmanship in their possession.

Proceeding to his paper, the author said if they measured the greatest length and the greatest breadth of a Greek temple, a Greek unit of pattern, a Greek bronze, or a Greek vase of the best period they obtained the end and side of a rectangle. The lines thus obtained were almost always incommensurable, or unmeasurable one with the other. As areas, however, these rectangles possessed a fascinatingly curious commensurability. They were extremely easy to construct and belonged, or might be reduced, to one or two classes. Further, they almost invariably found that the details of a Greek design were logical parts of its containing rectangle. In fact this was the acid test by which they determined the grade of planning knowledge possessed by the classical designer.

When Greek designs were first measured, the astonishing fact was revealed that the measured lines were incommensurable. In later days certain enthusiastic archæologists claimed to have discovered round numbers in some Greek measurements. It was claimed, for example, that the stylobate flank was exactly 200 Olympic feet, but the fact remained that other lines of the ground plan could not be divided into this so-called line of 200 ft. If, however, they took the same temple plan and considered the rectangle it furnished, also the rectangle of the plan of the cella, and the column arrangement, they saw immediately that they belonged to a class of rectangular shapes which seemed to have been well known to Greek designers for generations.

As practical men, they knew that before work could be carried out by workmen some measuring method must be employed which produced commensurability. For this purpose they used the foot or the metre and divided it into even fractional parts. An exhaustive investigation of classic design showed clearly that in the early part of the sixth century B.C. Greek craftsmen were using a measuring method wherein commensurability of lines was an essential feature, and that some time during this century a change was made to a newer system. The essential base of this new method was incommensurability of lines, but measurableness of area. The first system depended upon a unit of some sort. It did not matter what the unit was, but the point to bear in mind was the measurableness of line or area would always remain measurable whatever the unit might be.

Before they recognised a design as such there must exist in it an arrangement of elements of some sort which bore to each other and to the whole some degree of relationship. For the purpose of determining the grade of symmetry in a design there was nothing better than the design itself, providing that they had the proper measuring instrument for analysis. Recognition of the necessity for such an instrument led him twenty years ago to undertake an examination of the bases of symmetry in nature. He found two phases of this phenomena which could be of use to design: one in the crystal and other regular pattern forms, to which was given the name of "static symmetry," and the other in the phenomena of leaf distribution in plants, to which was given the name of dynamic symmetry.

When the general principles inherent in these two types of symmetry had been worked out and their operating technique developed, it was found that the static was the type existing in the design products of all nations excepting the Egyptians and the Greeks. Dynamic symmetry showed them that it must have been out of some such practice as rope stretching or surveying that the basic ideas of correlated or formal design in both Egypt and Greece developed. The facts appeared to justify the assumption that some genius—probably in Egypt, but possibly in Greece—after the linear system had been in use for some time made the discovery that another system of measurement was possible; that a diagonal to a square, used in relation to a side, produced shapes which, while incommensurable as lines, were delightfully measurable as areas.

The fascinating series of root-two shapes which Greek design supplied rested upon this side and diagonal relationship. Later still some other observant designer hit upon the idea that the diagonal to two squares in relation to the side of one of the generating units supplied a much more powerful and flexible method of area measurement. The interesting aspect of the matter lay in the fact that a diagonal to two squares was the base of the phenomena of leaf distribution in the vegetable world. Owing to his understanding of a method of measuring by areas, the Greek designer had knowledge of an infinite series of remarkable shapes entirely unknown to the modern designer.

"We may use strong emphasis on this point," said Mr. Hambidge, "because extraordinary precautions have been taken to ensure accuracy of results. The Parthenon at Athens, of course, stands on Penrose's measurements. When we consider the ground plan of this building as a rectangular area (this area must include the Euthynteria or lowest levelling course), and divide the end into the side, we obtain a ratio which is immediately recognisable as belonging to the series of dynamic shapes mentioned. Penrose was most painstaking in his survey of this building, so we may take his figures, and without making a drawing or diagram prove correctness of the measurable area sch by a little arithmetic. When we fol out the logical process of sub-divisi which is a peculiar property of this p ticular rectangle, we find that every de of this ground plan forms part of arrangement wherein the basic des idea is similarity of figure. The m motive is a square plus an area obtai from a diagonal to two squares. The p ciple by which the sub-divisions are tained depends upon establishing a r procal to the major area. This idea reciprocal to a shape seems to be quite known to modern design, but there is o whelming evidence that Greek desig thoroughly understood it. The divi of the area of the Parthenon ground p results in an arrangement of sim figures in which the column centre plays the most important part: includes the relationship of the neighb ing columns to the angle columns. error throughout is the error of workm ship."

A vote of thanks was accorded author on the motion of Sir C. Sm seconded by Sir R. Paget, but the h was too advanced to allow of a discuss

Presentation to Mr. Henry T. Hare

Before the reading of the paper by Hambidge, a portrait of Mr. Henry Hare, the immediate past president, w has been painted by Sir W Llewellyn, was unveiled by Mr. Ar Keen, F.R.I.B.A.

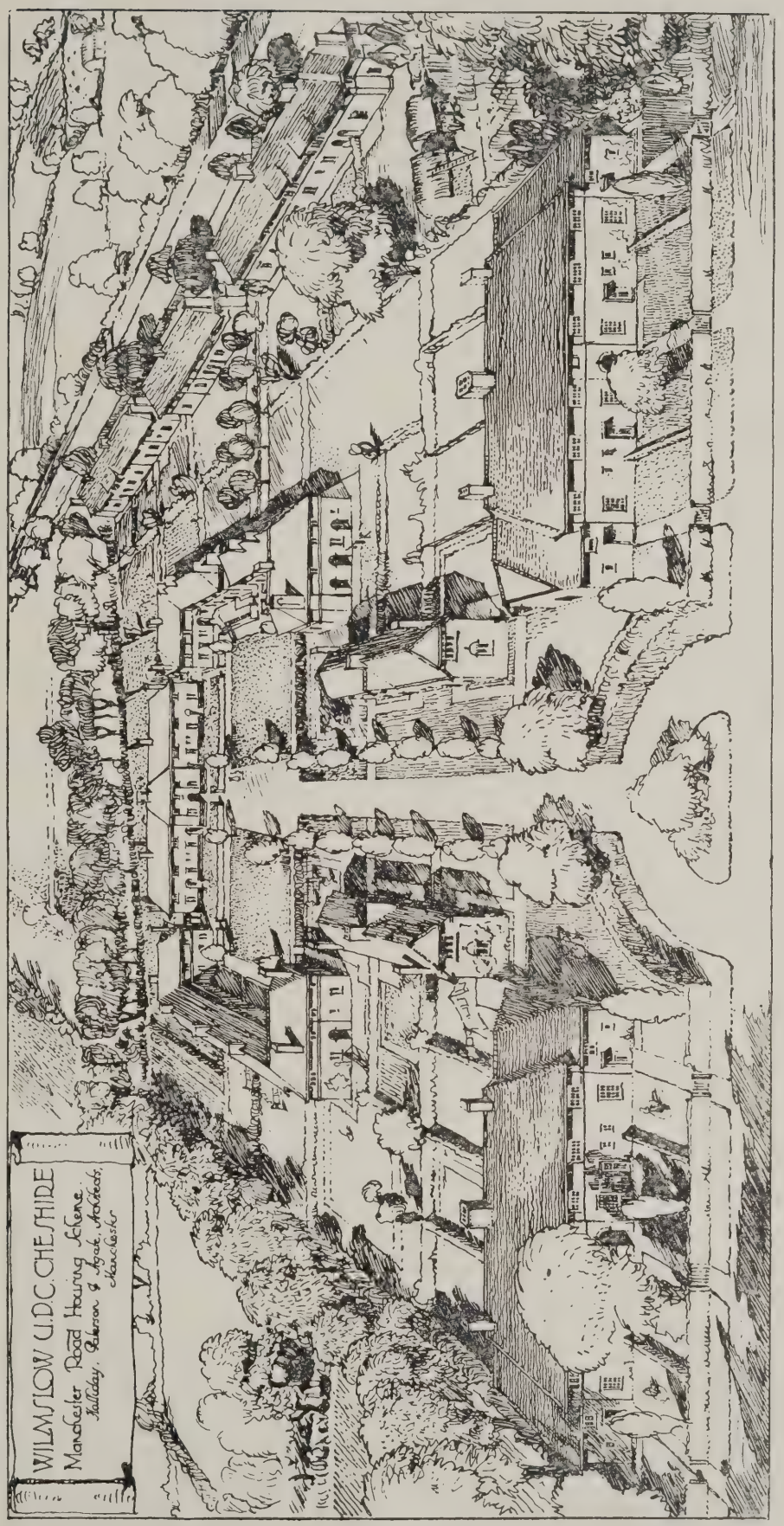
In unveiling the portrait, Mr. K referred to the art treasures possessed the Institute, and said the greatest i rest attached to the portraits of men whose work for the profession of arch ture they were exceedingly proud. T night they would add another portra the collection—that of Mr. H. T. H Mr. Hare had achieved success not a by his outstanding skill in his professi work, but also by a kind of winsome of disposition, and a sense of good na and kindliness combined with extra nary judgment and expression, which confidence to those who sought his g ance. Mr. Hare's labours had laid la in the area of competition work, and it due in no small measure to his ene and influence that the whole syster architectural competitions in the cou had been lifted to an entirely new pl In conclusion, he asked the President behalf of the Institute, to accept portrait.

Mr. Henry T. Hare, F.R.I.B.A., he felt the Institute had done a great for architecture and architects, and it a different position to-day in the estee the public than was the case five twenty years ago. The practice of a tecture had never been at a higher dard than now. He appreciated full honour of having his portrait painted trusted that one day the Institute wou able to show its collection of pain under better conditions. He thanke members of the Institute warmly fo consideration they had always shown

The President, in accepting the por remarked that Mr. Hare was eminen common-sense president.

Town Planning. 2.—Housing Scheme at Manchester Road, Wilmslow, Cheshire

Halliday, Paterson, and Agate, Architects



This scheme comprises thirty-six houses. A minimum of road construction has been secured by grouping most of the houses round a quadrangle entered by a short lane. The houses have selected common brick facings, and are roofed with small Delabole slates.

Correspondence

Skyscrapers or Cottages

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With regard to the article on "Why Skyscrapers for London?" by Mr. Crossley Davies in your issue of February 4, Why should Mr. Crossley Davies assume that these buildings would be built of combustible materials? Ten years ago the idea would have been out of date. To-day we know that it is cheaper to make the windows and frames of steel even of cottages, and in tenements it is certainly cheaper to use fireproof materials for floors, doors, roofs, and lifts, in fact, for everything, especially if fire insurance is taken into account.

Now as to air raids. It is quite possible to make the two top floors in combination proof against any air bomb at present existing, as better bombs were invented there would not be the least difficulty in increasing the protective power of floors.

As to landlords, why assume that landlords should always get the better of the bargain? New legislation would be required to permit the erection of anything like a forty storey building, and it would be perfectly easy to limit the landlords' profit to the capitalised value of the first three, or, in some cases, two floors (and this would not be so socialistic a proposal as the present Rent Restrictions Act) the rest going to the relief of rates or taxes.

Why assume that the buildings would be close together? Let us take, as an example, the suburbs such as Wandsworth or Clapham or Ealing. Supposing the present accommodation is sixteen houses to the acre. I work out an eleven tenements to one storey building, with one living room, three bedrooms, and offices to the flat, to occupy a space 190 ft. by 30 ft., with wings projecting 50 ft. both ends, outside size being 190 ft. by 80 ft., or less than half an acre. Forty storeys would accommodate 440 families. Now take the space at present occupied by 440 villas at twenty-seven acres, and put this building in the middle of the south side: it looks very small—the space is 1,500 ft. by 856 ft. That is to say, the space between buildings east and west would be three times the height, and north to south over twice. There would be space for playing-fields and allotments, parks, and golf courses; even a racecourse or two might be squeezed in. Contrast this arrangement with the beastly little back yards, with all their sanitary horrors, innumerable drains, and the difficulty of refuse removal, that can be seen from any suburban railway. It seems to me we are paying a lot for our individualism.

Thus, again, why assume that skyscrapers would be designed by persons of no architectural ability? The skyscraper is going to attract and develop the very highest talent. There must be few of our colleagues who are not heartily sick of plotting cottages, which requires about as much architectural sense as putting hencoops out in a field.

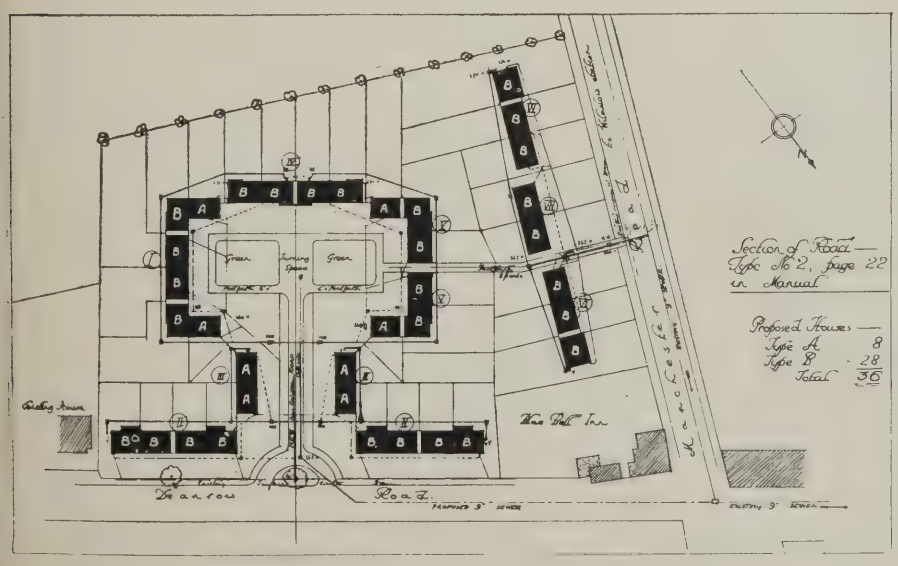
Mr. Crossley Davies sees a London constantly spreading, suburbs encroaching on country, townlets superseding suburbs. Three hundred acres of market garden are threatened in Essex, Byfleet superseding Shere and Albury, and Islington in place of Wood Green. In a few years it will be an air journey from town to real country.

I see a town spreading upwards with architectural results at present hardly dreamt of. Imagine the Southwark area developed as one architectural scheme, with buildings up to 500 ft. architecturally massed, with their proper approaches, podiums, plinths, pedestals, bases. The L.C.C. building would, if it were a little stronger, form one podium, with wings and bastions, pediments and cornices—I do not say like New York, for so far as I can see New York was started on the high scale before the natives had discovered architecture or the desirability of any sort of correlation. The Thames is wide enough for buildings ranging up to 1,000 ft.

Think of the hours that are wasted by millions daily in travelling dreary suburban journeys which might be exchanged for an equal number of minutes in a lift. As for the "cushions of bad air" in Mr. Davies's last paragraph. This must surely be the poetic frenzy of a peroration. If there is one certain sure way of disposing of the smoke nuisance, it is in the abolition of countless thousands of cottage chimneys and substituting combined heating and smoke-consuming appliances, with the delivery of the remaining gases at some 500 ft. from ground level.

So far as I can see, only one reasonable objection has been raised to the rebuilding of the greater part of London (buildings and districts of historic or architectural value being, of course, scrupulously excluded), that is the question of cost. Any sort of rebuilding is going to be costly, and only some few areas would pay for demolition and re-erection, but in some areas destruction is essential to the well-being of the people, and the profits on some districts would have to be taxed for the benefit of the less fortunate.

HAROLD FALKNER.



WILMSLOW HOUSING SCHEME, CHESHIRE.

(See Plate, page 285).

Skyscrapers and Aviation

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In a letter to the "Times" on February 12 Lord Montagu suggests "Skyscrapers" as a solution of the housing problem, whilst he makes a further suggestion that some groups of skyscrapers should act as piers in supporting a glass landing ground for aircraft. These suggestions cannot be taken seriously either by architects or by aviators.

In arguing that those who lived in the top storeys of the 300-foot skyscrapers would enjoy pure air, Lord Montagu states that anyone who has flown over London at 150 feet will agree that the smoke-cloud is non-existent at that height.

I am very much inclined to doubt whether any pilot has ever been foolhardy enough to attempt a prolonged flight over London at such a low altitude, but if it has been done I am sure that he was very intent on matters quite other than his sense of smell in regard to the smoke-cloud! I believe the Air Ministry Regulations still forbid a flight over London at a lesser height than 10,000 feet, and they are very wise in so-doing. It is not proposed that every building should be a skyscraper, and I am inclined to think that, rather than enjoy purer air, the inhabitants of the top storeys would suffer from the foul air, smoke, and gases, discharged from the chimneys of the humbler buildings.

Another point which has not been touched upon by the "pure air" theorists —for Lord Montagu is not alone in this argument—is the question of those who are unfortunate enough to live in the lower storeys. One imagines that the children would be expected to play in the wells of the buildings, which medical science has proved to be perfect death-traps, and a regular haunt of tubercular germs.

It is also very doubtful whether the subsoil of London would stand the erection of these skyscrapers.

From an aviator's point of view, the suggestion for a glass landing ground supported by skyscrapers, and presumably covering an area of streets, must be treated either as a joke or as a tragedy. Lord Montagu having been connected with the Air Board, one is inclined to the former view. In the daytime the light would render the glass partially invisible. At night, when one presumes that the mail-

carrying work would be done, the pilot looking down at the street lights, and imagining himself to be quite safe, would suddenly meet the glass roof, and the alleged curse of the R.A.F.—a glass too much—would become a curse indeed! Even if a roof aerodrome were a feasible proposition, glass would seem to be a very undesirable surface for it. It would either get slippery like ice, and lead to accidents when "taking-off," or rough, which would mean that the tyres on the undercarriages of the machines would get torn and lead to tyre bursts, with further accidents.

With regard to the skyscrapers acting as piers to the landing ground, the problem of the placing of the chimney stacks would be somewhat baffling to the architect, and one wonders how he would overcome it, having due regard to the "pure air" theory!

Those who advocate roof landing-grounds, and there are, unfortunately, many persons so afflicted, seem always to ignore the multitude of dangers from accidents, both whilst flying and whilst "taking-off" or landing, and to the neighbours as well as to those directly concerned, which are at present inseparable from such a scheme. The authorities who have governed flying from its inception (and it must be conceded that they are the true "experts") have always placed the safety of the public before the convenience of the pilot or the aircraft firm, and up to the present all aerodromes have been placed as far from a town as the railways governing supplies will permit. Few people, comparatively speaking, have witnessed a bad "crash"; fewer still have seen, as the writer unfortunately has, a big machine fall into a crowded street; it needs only this to cure for ever the advocates of central aerodromes for large towns, or still more fantastic propositions for roof-landing grounds.

MAURICE KIDDY,
Captain (late R.F.C. and R.A.F.),
Assistant Secretary of the Society.

Liverpool University

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—While thanking you very much for the generous statement made in your last issue with regard to the success of students of the Liverpool University School of Architecture in the competition for the British Prix de Rome, I feel I owe it to the University, which has devoted its Chair of Art to architecture, to remind you that the Liverpool School is not, after all, so very young. It was founded as a day school, with complete courses in architecture, for a degree and certificate in 1904, the date of Professor Simpson's appointment. I think this was a few years earlier than the foundation of the Architectural Association's day school, though, of course, it was at least half a century after the establishment of the Chairs in Architecture at University College and King's College, London.

C. H. REILLY.

Architectural Education

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I beg to draw attention to a serious mis-statement in the leader on "The Institute and Architectural Education," published in your issue for February 25. In the course of his remarks on the debate which followed Mr. Waterhouse's paper on Architectural Education, read at the Institute on February 16, the writer of the leader observes that "the evening was wasted on the customary platitudes. There was much small talk, some of it quite eloquent, but nobody made the slightest effort to rise to so great an occasion. In fact, nobody got to close grips with the subject."

This cannot be suffered to pass uncontradicted. It bears so little relation to the facts of the case that one can only conclude that the writer was not himself present at the meeting and was misinformed as to what actually took place. The most precise, definite, and entirely practicable proposals were made for the reform of architectural education, and they appeared to be favourably received. That carefully considered constructive proposals should, at this critical stage, be so lightly and unjustifiably misrepresented is, I am sure you will agree, highly prejudicial to the best interests of architectural education. The very compressed résumé of these proposals published in the same issue could but slightly mitigate the damaging impression of the leader.

LIONEL B. BUDDEN.
School of Architecture,
The University of Liverpool.

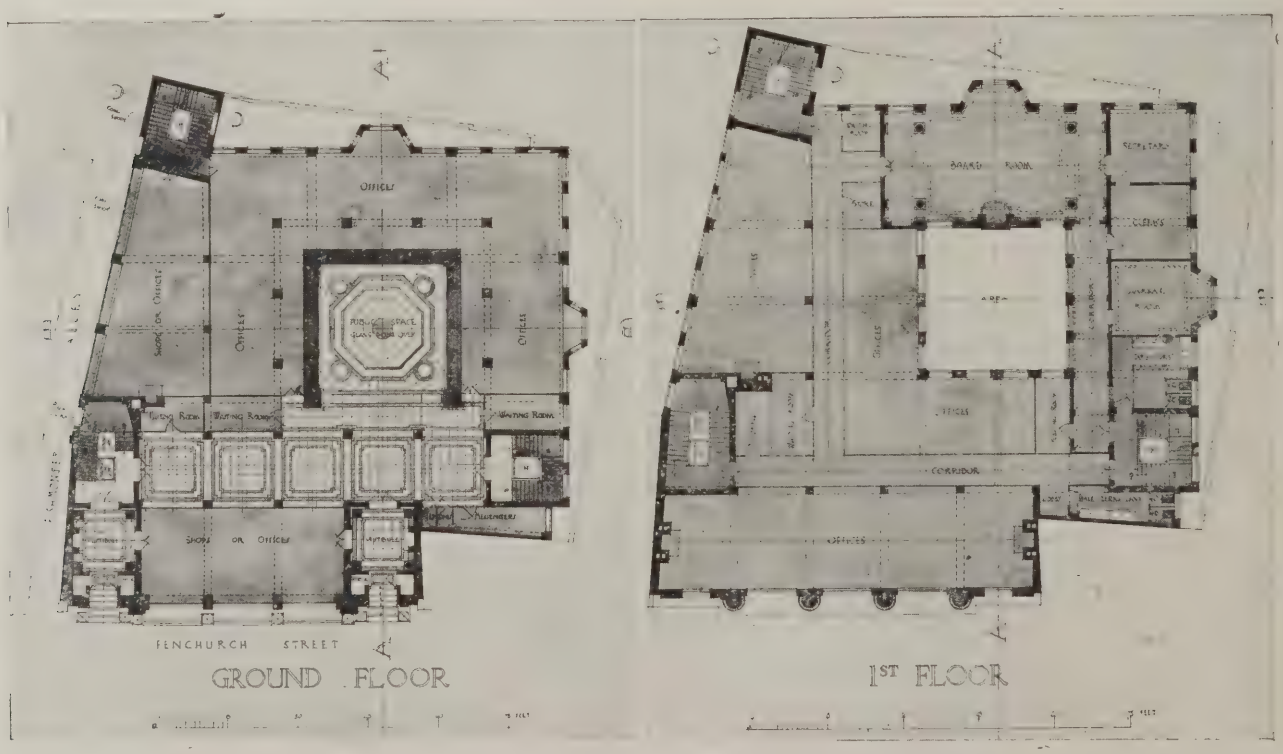
"Specification" as an Army Text-Book

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—An interesting war reminiscence has been brought to my notice by Mr. G Mould (an ex-R.E. officer), who was with the Fourth Army when it reached Namur, Belgium, in December, 1918. In the course of his work, it appears, he discovered a copy of "Specification" dated 1912, in a house which was being cleaned and prepared for use as billets for the troops.

It was this book, he informs me, which proved his sheet-anchor, when, having been appointed a few weeks later as lecturer to the Building Construction Classes held under the Fourth Army Educational Scheme, he found himself without text-books of the ordinary description. His lectures, which I understand were entirely based upon the technical information he found within its covers, were surely an excellent example of that gift of improvisation which is so frequently exhibited by resourceful men in difficult situations.

FREDK. CHATTERTON, F.R.I.B.A.
(Editor of "Specification.")

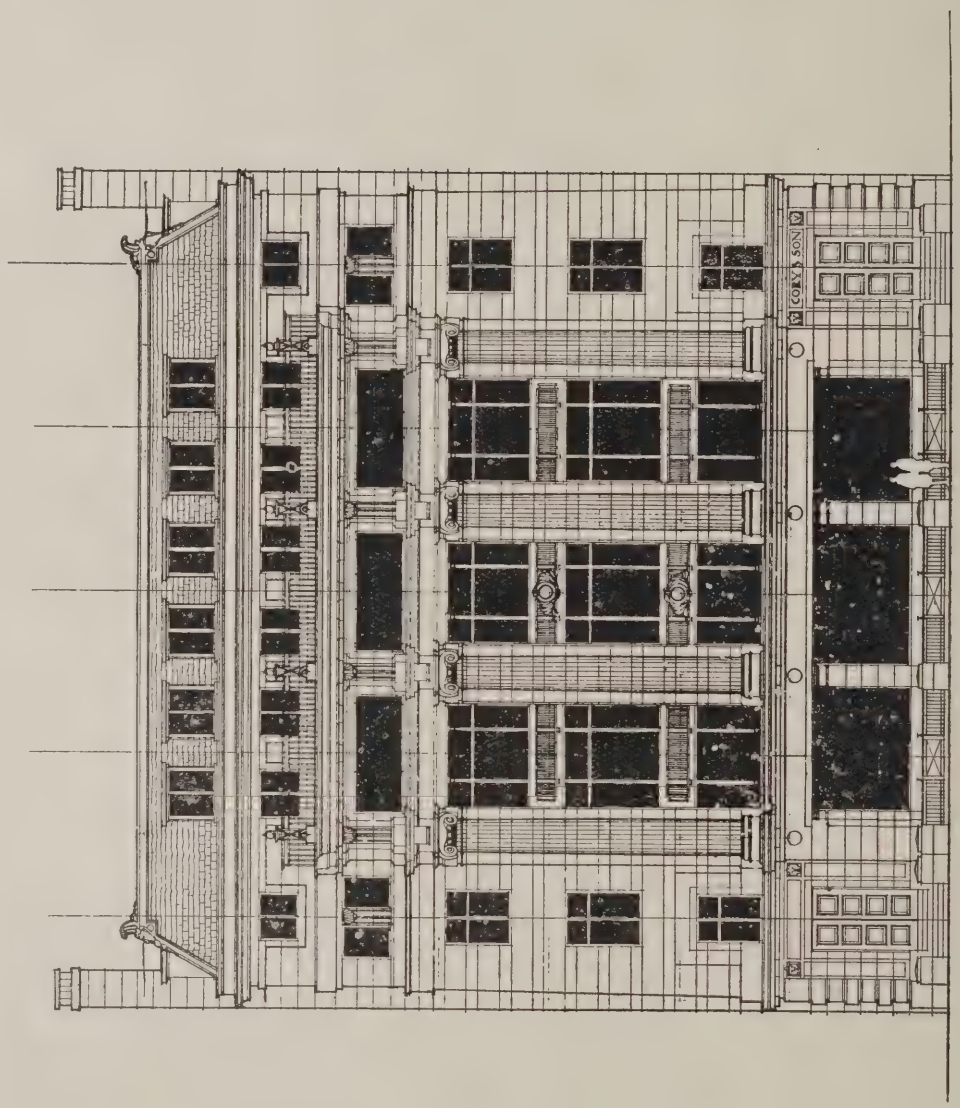


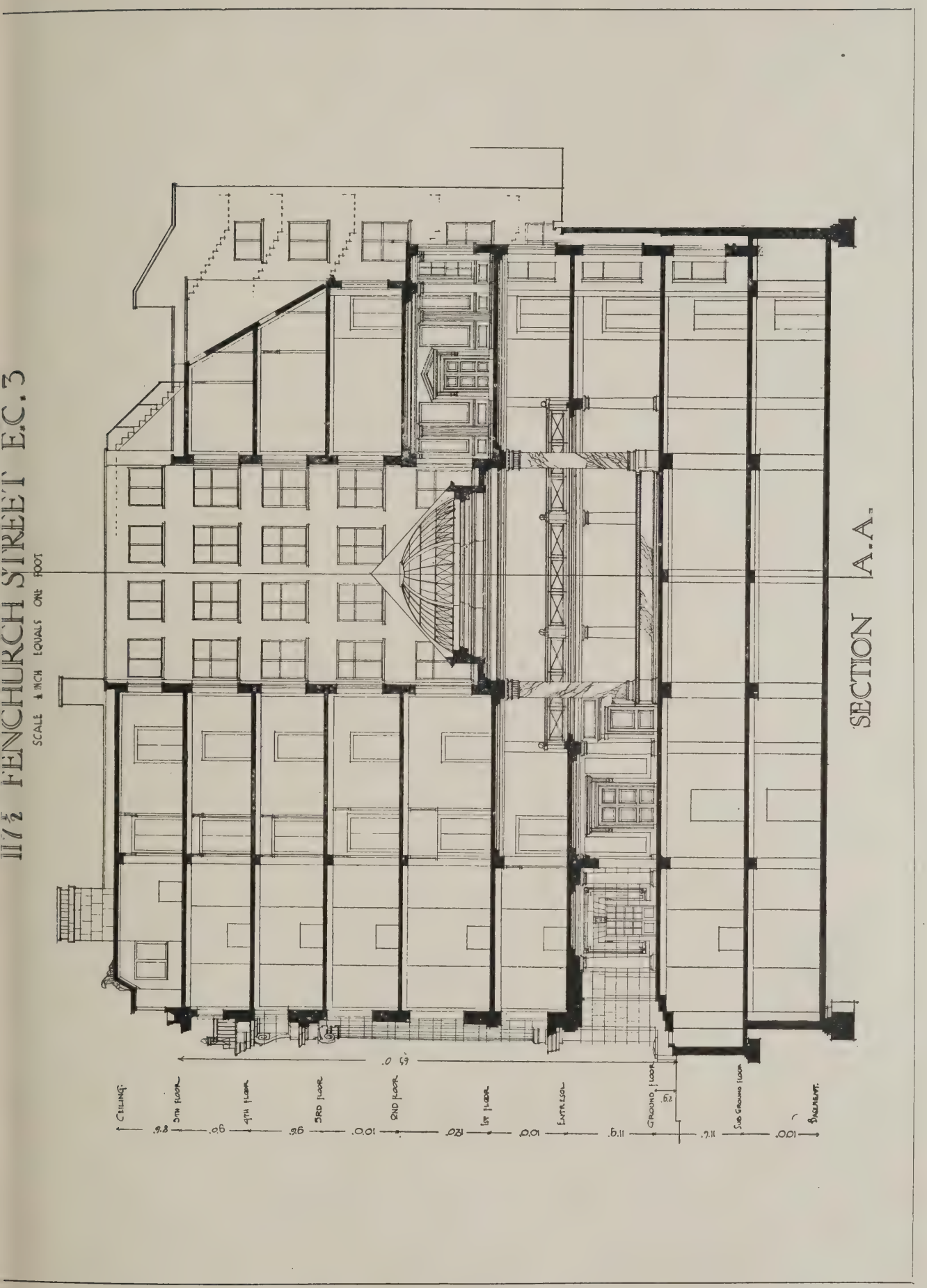
PROPOSED CITY OFFICES: GROUND AND FIRST FLOOR PLANS. GEORGE HUBBARD, F.S.A., F.R.I.B.A., ARCHITECT.

(See Double-page plate).

Current Architecture. II.—Design for Proposed City Offices

George Hubbard, F.R.I.B.A., Architect





This design is from competition drawings for large offices to be erected in Fenchurch Street on the old site of the Ironmongers' Hall. The elevation to Fenchurch Street would be built in Portland stone. The planning is on the unit system, to effect a saving in all trades and to facilitate construction. In this case the unit is 15 ft., representing the centres of staircase and girders: centre axes being obtained as a natural result. The octagonal dome lighting the ground floor and entresol spans 20 ft. Maximum floor space has been obtained with minimum interruption by supports.

Maternity Hospitals and Homes

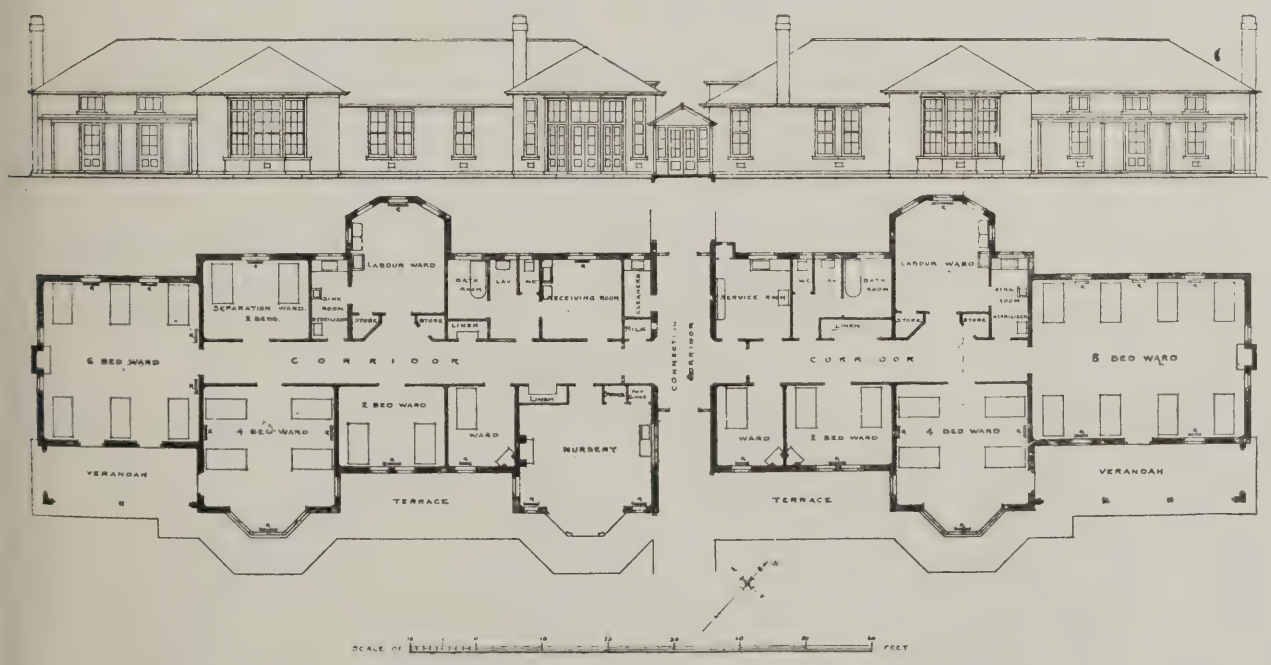
IERE is an urgent need in both large and small towns, as well as in country districts, for maternity als and homes designed on the most n and efficient lines. The memo- m of the Ministry of Health, which ıst been issued, comes at an oppor- moment, and is full of information greatest assistance to the architect. igning a home or hospital economy nstruction and simplicity of plan be carefully studied and special ion must be directed to economy of istration and nursing and to the re- n of labour and cost of mainten- Lying-in wards should not ordi- contain more than six beds. area of wards to contain patients their infants should, assuming that ntilation is adequate, be calculated asis of 96 sq. ft. and of 960 cubic ft. d; and in the case of lying-in wards, tain only the mothers at night, the er bed may be reduced to 80 sq. ft., n the case of wards to contain ante- cases the area may be reduced to ft. The height of the general wards l not be less than 10 ft., and the pro- of a certain proportion of the beds atients in separation wards is very ble. In a hospital or single pavi- ontaining fifteen beds there might be d containing six beds, one contain- ur beds, two wards for two beds and gle-bed ward. The labour room d be convenient of access to the in ward, and so arranged that a bed vithout difficulty or disturbance be ed from the labour to the lying-in At the same time the labour room d not be unduly close to the wards, hould be separated by a passage or ordinary labour room should not be than 14 ft. by 14 ft. in area, and hould be fitted with a lavatory basin a stoneware sink, both fitted with actuated by elbow levers or pedals. abour room should be in convenient proximity to a sink room containing a proper hospital sink. If the home or hospital is a training centre the labour room should be large enough to admit of the attendance of several nurses besides those actually in attendance on the patient, and in such cases the labour room should be arranged on a rather more extensive scale with sinks, lavatory basins, and the necessary equipment and fittings. An ample supply of hot water should be immediately available. Warming by means of radiators or by a suitable gas fire is preferable to the use of an ordinary coal fire. Special attention should be paid to the effective lighting of the labour room. It is desirable that in every home or hospital there should be a separate room available which could be used as a second labour room if necessary, as it is obviously unsuitable that two patients should be treated simultaneously in the same room. Passages should be of sufficient width to enable a bed to be wheeled conveniently, and without disturbance to the patient, from the labour room to the lying-in ward, and for this purpose a width of 6 ft. will be found advisable.

It is desirable in the interest of the mothers, especially those in wards containing more than one or two patients, that the infant should sometimes sleep in a separate nursery at night. Adjoining the nursery there should be a small place containing a sink for washing bottles and a cabinet for the storage of bottles, etc., and fitted with a bunsen ring. The extra cost of providing a nursery will be balanced to some extent by the fact that the floor space per bed in the general wards may be proportionately reduced.

Every home or hospital should contain a receiving room, placed near the entrance and of sufficient dimensions to include a bath and lavatory basin, unless these are placed in a separate room adjoining. A w.c. should also be conveniently available. As the receiving room may, in an emergency, have to be used as a labour ward it should be large enough for a bed and should include a sink. A small duty or service room with a sink, dresser, small gas range and hot plate (or cottage range) and a ventilated food store, should be provided in convenient relation to the wards. The duty room need not necessarily adjoin the general ward, but if it does a small observation window should be provided. A window overlooking the corridor will also be found to be useful for the purpose of supervision.

In homes of limited size it will be advisable and convenient that the staff should be accommodated in the building itself, and this can best be arranged by devoting the whole of the ground, and, if necessary, first floor to patients' and administrative offices, placing the nurses' and staff bedrooms on the floor above. The nurses' rooms should be as independent as possible of the patients' quarters. In larger hospitals the nurses' quarters would be better placed in an independent home. A nurses' home on these lines should contain quarters for the matron—a sitting-room, bedroom, and, perhaps a bathroom—a small sitting room for sisters and a larger one for charge nurses, etc., and if the home or hospital is used as a training school a room for lectures and study should also be provided. A pantry or scullery with a small gas range, sink and dresser, and a lavatory should also be included. These rooms might be placed on the ground floor, with the nurses' bedrooms, bath-room, etc., on the first floor. The nurses' bedrooms should be of about 100 sq. ft. in area and should be fitted with a fixed cupboard and drawers. The bedrooms for sisters should be large enough to be used as a bed sitting-room.

If sufficient lavatory accommodation is provided on the first floor it will probably be unnecessary to provide washstands and basins in the bedrooms, thereby gaining additional space and saving a considerable amount of labour. Fireplaces in the nurses' bedrooms are not recommended



MATERNITY HOSPITAL FOR 30 BEDS - ONE STOREY DOUBLE PAVILION TYPE.

(From the Ministry of Health Memorandum.)

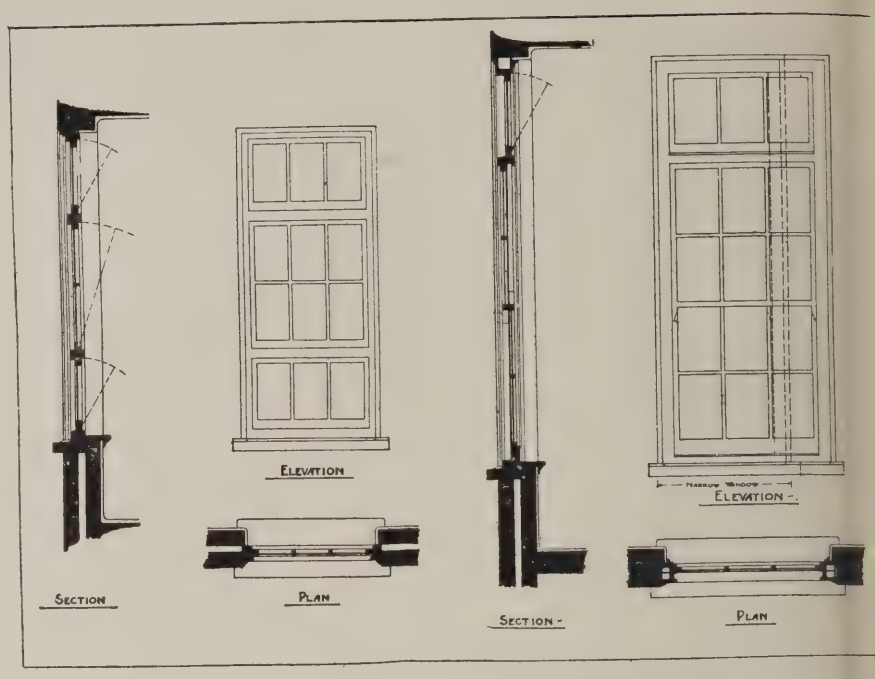
for general use, and, provided the corridors can be warmed by means of radiators, need not be provided. It is found in practice that fireplaces occupy a large amount of space, are costly and often difficult to arrange, are rarely if ever used, except in cases of illness, and that adequate ventilation and warmth can be secured by placing a fanlight over each door. It is, however, desirable that there should be one bedroom with a fireplace in case of sickness, and this room should, if possible, be reserved for this purpose. The matron's bedroom and nurses' sitting-room might also contain a fireplace. If a verandah or loggia can be arranged in connection with the nurses' sitting-room this will be much appreciated by the nurses in the summer months.

The provision of a small isolation block will be found of considerable value for the removal of febrile or puerperal cases arising in the hospital. The building should be detached and need only contain two small wards about 12 ft. by 10 ft., with a small nurses' room, hospital sink, and w.c. In the case of a comparatively small home or hospital probably one ward will be sufficient.

In order that a plentiful supply of clean, well-aired linen shall be available the provision of a small laundry is recommended, even if the home washing is confined to small articles. The laundry should preferably be detached or internally independent of the main building, and should be fitted with a washing machine and washing troughs, unless the home is quite a small one, in which case washing troughs and a copper will probably be found sufficient. Space should be arranged for ironing and for drying and airing articles, though a good deal of drying can be done by ordinary open-air methods. A small circulating boiler, to supply hot water, and a stove for heating irons, etc., will also be required.

If there are no local facilities for disinfection a disinfector should be arranged in connection with, but independent of, the laundry. In larger hospitals a destructor will also be necessary. A sterilising apparatus should be provided in every home or hospital. In smaller homes this can be placed, if necessary, in the sink room or duty room, but in large hospitals it is advisable to provide a separate chamber. A hospital of any size might also with advantage include a laboratory well lighted from the north and fitted with sinks and lavatory basin. A small dispensary or a store for drugs, dressing, etc., should also be provided.

The provision of verandahs, open-air sun rooms or balconies, will be found of considerable advantage, and the windows should be of the double-hung sash type. In high wards or rooms a hopper hung light should be placed over a transom to open inwards, and in smaller hospitals and homes windows may be of the casement type with the upper portion to open, though these are not altogether suitable if the position is exposed. A home to contain up to twenty-four beds can be comprised within a single building, but a hospital which exceeds thirty beds should be designed in several units. The rooms containing patients should if possible face south-east. The memorandum, which may be obtained through any bookseller, price 9d. net, contains some interesting type plans and a whole wealth of information with regard to the design, construction, and organisation of the hospitals and homes.



TYPES OF WINDOWS FOR MATERNITY HOSPITALS.

(From the Ministry of Health Memorandum.)

R.I.B.A. Service Candidates

A Conference organised by the Council of the R.I.B.A. to discuss the question of exemption of war service candidates from the Final Examination has been held at the Institute. The president, Mr. John W. Simpson, was in the chair, supported by the four vice-presidents and the hon. secretary. The following, representing Allied Societies, were present: Messrs. Lewis F. Tonar (Licentiate) (Devon and Exeter Society), T. R. Milburn (F.) (Northern Architectural Association), L. Kitchen (F.) (President, York and East Yorkshire Society), R. Savage (F.) (Vice-President, Birmingham Architectural Association), T. Taliesin Rees (F.) (President, Liverpool Architectural Society), J. R. Wigfull (A.) (Sheffield Architectural Society), Sydney Tugwell (F.) (Hants and Isle of Wight Association), S. S. Reay (F.) (Bristol Society of Architects), Chas. Kempson (F.) (Leicester Society of Architects), Ivor J. Jones (A.) (South Wales Institute of Architects), Arthur Clyne (F.) (Aberdeen Society of Architects), John Keppie (F.) (Glasgow Institute of Architects), L. O'Callaghan (R. Inst. of Architects of Ireland). There were also present Messrs. Maurice E. Webb (F.) (President, Architectural Association, London), F. E. Pearce Edwards (F.) (Sheffield), Arnold Thornely (F.) (Liverpool), W. E. Riley (F.) (London), W. P. Rylatt (A.) (Derbyshire), C. B. Flockton (F.) (Sheffield), and Ian MacAlister, secretary.

The President read the following letter inviting representatives to attend:

Dear Sir,—The Council of the Royal Institute have decided to hold a Conference on the question of the election of "war service candidates" and their exemption from the Final Examination, which has recently been the subject of some controversy. In addition to several representatives of the Council and to several members who have opposed the Council's action, it is desired to have a representative of each of the Allied Societies at the Conference. I shall be very glad if you will kindly ask your Council—or the President, if your Council will not be meeting shortly—to appoint a representative of your Society to attend the Conference which will take place at the Institute on Monday, January 19, at 3.30 p.m.—F. fully yours, IAN MACALISTER, Secret

The question having been exhaust discussed and various solutions sugge it was finally resolved by a unanir vote to make the following recomme tions to the Council:

(1) That all duly qualified war se candidates who passed, or were exem from passing, the Intermediate Exan tion in and after the year 1910, shoul put forward for election at the ea possible date.

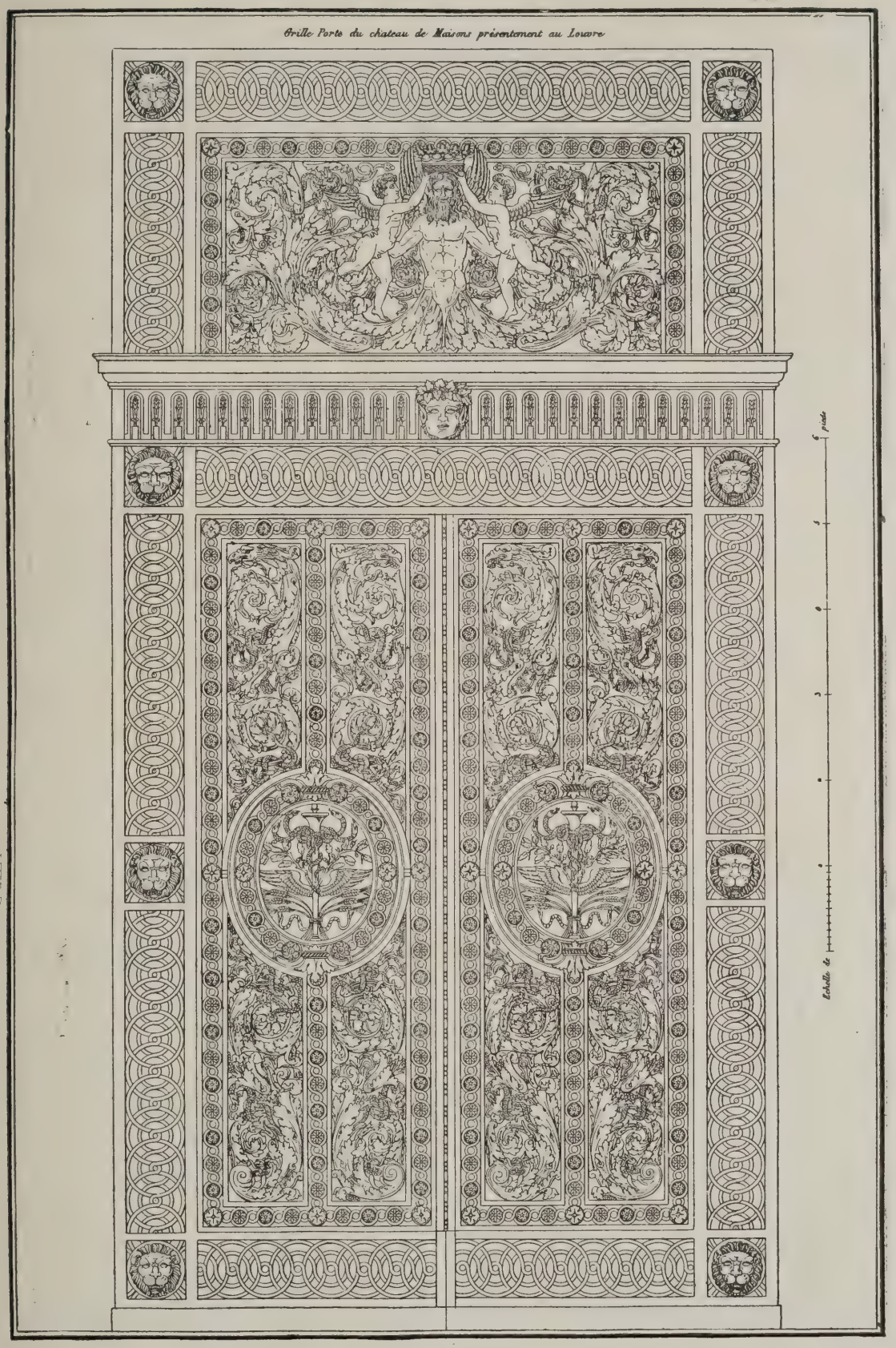
(2) That the cases of all duly qua war service candidates who passed, or exempted from passing, the Interme Examination before the year 1910, whose applications were received pri June 17, 1919, should be the subje careful consideration by the Boar Architectural Education and the Co of the Royal Institute.

(3) That if, in the case of any o candidates mentioned in (2), the Co find that there are special reasons, su disability caused by the war, undo and serious interruption of studie special hardship, they should prepare of such candidates, with full particul their war services, and of the s reasons above-mentioned, and forwa to the Councils of the Allied Societie invite these Councils to express opinion upon the list.

(4) That, having received the op of the Allied Societies' Councils upo above-mentioned list and given then consideration, the Royal Institute Co should proceed to prepare a final li pre-1910 candidates whom they co deserving of special consideration, an these candidates forward for electio an asterisk against their names, and to the effect that these candidates been the subject of special conside by the Council, and are put forwa special cases.

(5) That after the names have been lished, and before the election, the Institute Council should issue to all bers a circular explaining the proc that has been adopted with the war s candidates and detailing the resol passed at this Conference, and givi names of the members of the Confe which passed these resolutions.

French Metalwork. 6.—Bronze Gates from the Louvre



These highly elaborate yet most delicately artistic bronze gates, which are preserved in the Louvre at Paris, should not be allowed to languish merely as museum specimens. They should certainly be reproduced, if merely in cast-iron, to adorn some finely-designed bank or similar building. The illustration, a masterpiece of draughtsmanship, is from Bury's famous book.

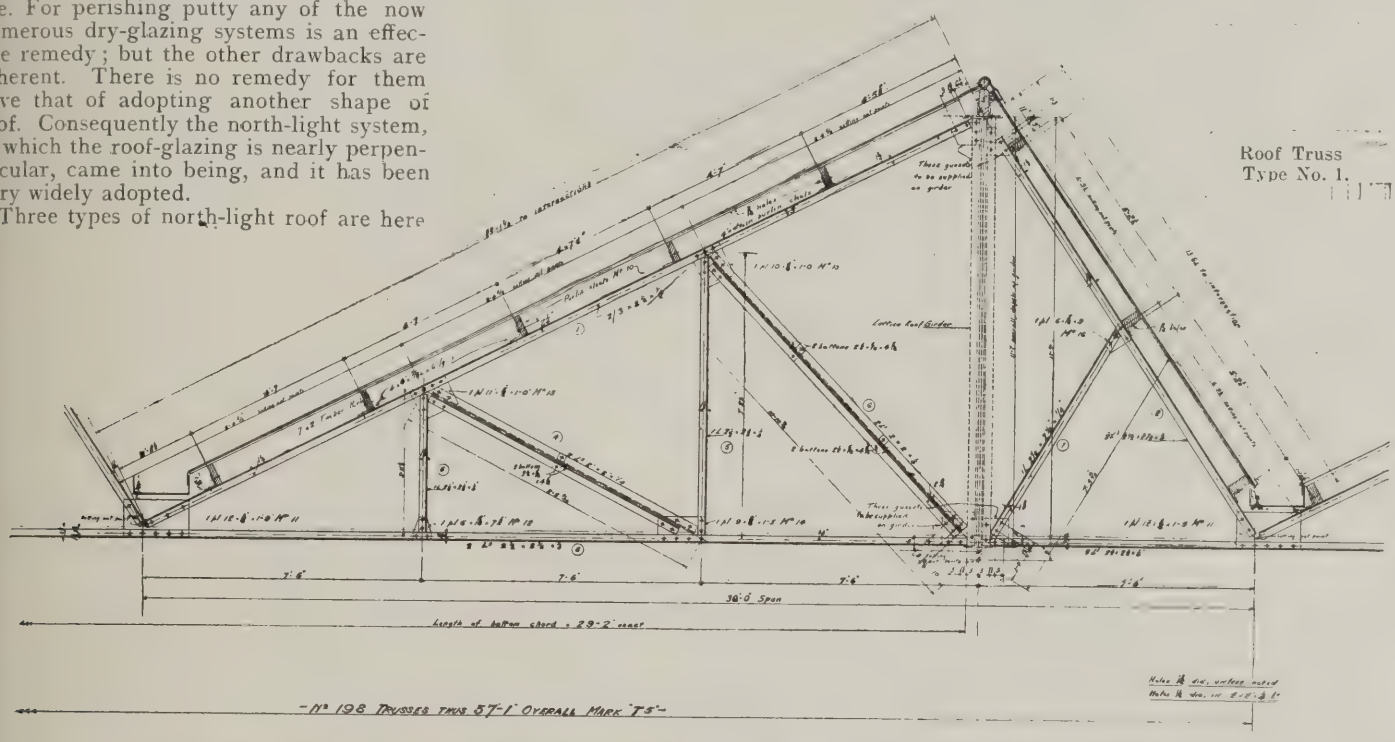
Construction. 8.—North-Light Roofs

WHERE much light from the roof is desirable, skylights of the old-fashioned sort have long been superseded. They had many disadvantages. In particular, they were liable to breakage, through expansion and contraction, or from accidents, or from wilful acts; and the glass-fixing medium perished, letting in the wet. Flat or sloping glazed roofs were in need of frequent repair; and now and again the repairer fell through them, in which catastrophe he was lucky to escape with his life. For perishing putty any of the now numerous dry-glazing systems is an effective remedy; but the other drawbacks are inherent. There is no remedy for them save that of adopting another shape of roof. Consequently the north-light system, in which the roof-glazing is nearly perpendicular, came into being, and it has been very widely adopted.

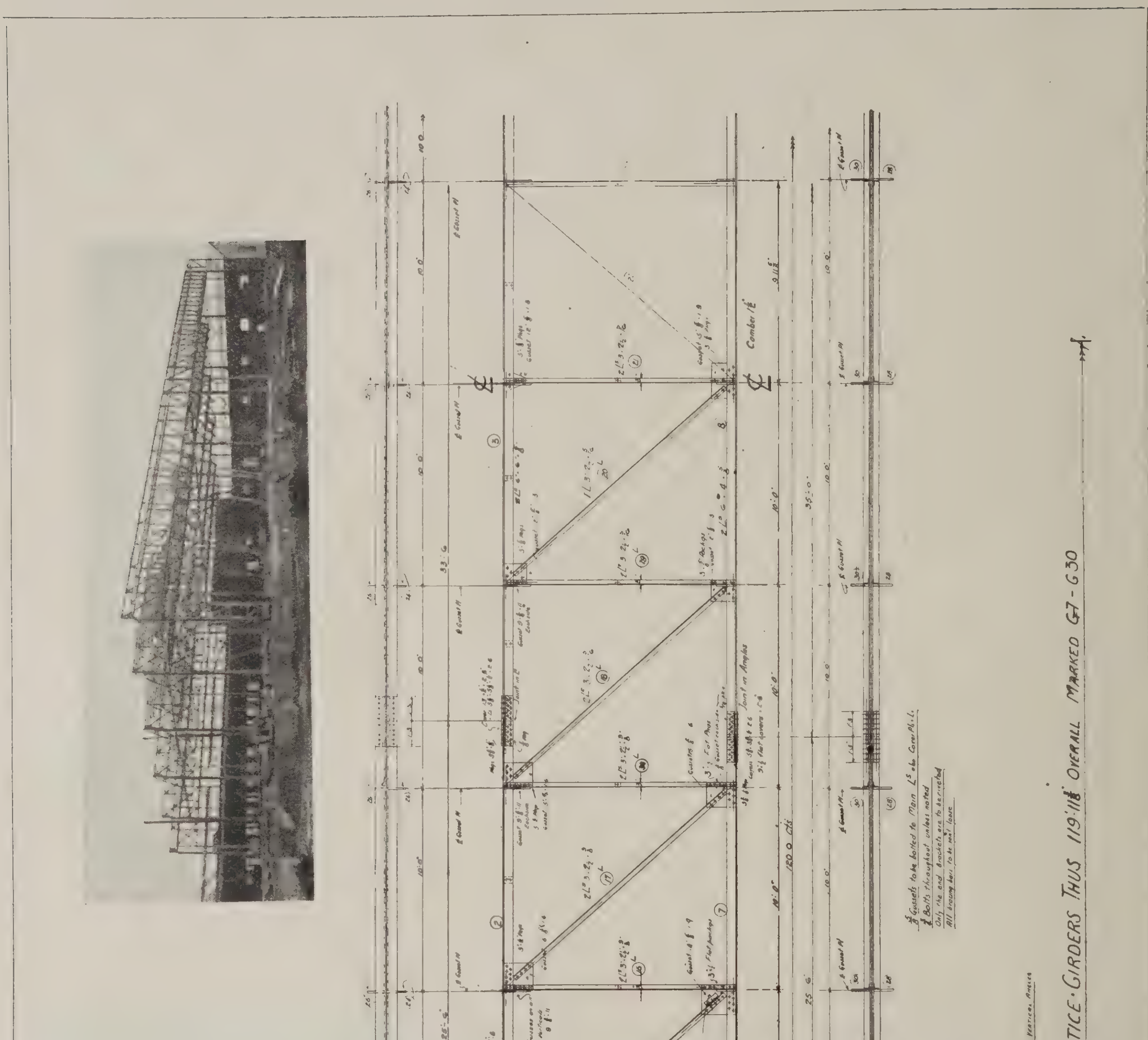
Three types of north-light roof are here illustrated by courtesy of Messrs. Redpath, Brown and Co., Ltd.

Type No. 1.—This type of construction is of special interest and utility, combining as it does a north-light roof with the lattice girder necessary for very large spans. The spans of the girders shown in the accompanying illustration are 120 ft. and 30 ft. apart. The lattice girders, occupying the depth of the truss from the ridge to the tie-level, give the maximum span of girder, with the correspondingly small amount of depth occupied in this form of construction. This type of roof commends itself where unrestricted floor space is essential. The accompanying illustrations show a building of this type partly completed. The use of runways attached to the underside of trusses and girders is possible, and any practicable head-room under the girders can be easily given if battened stanchions are adopted.

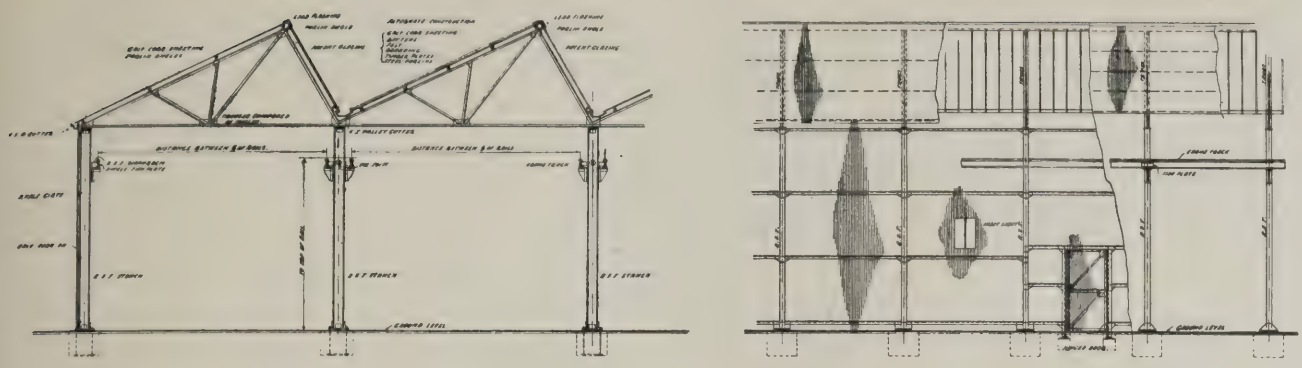
Type No. 2.—This type of construction is especially suitable where, a north light



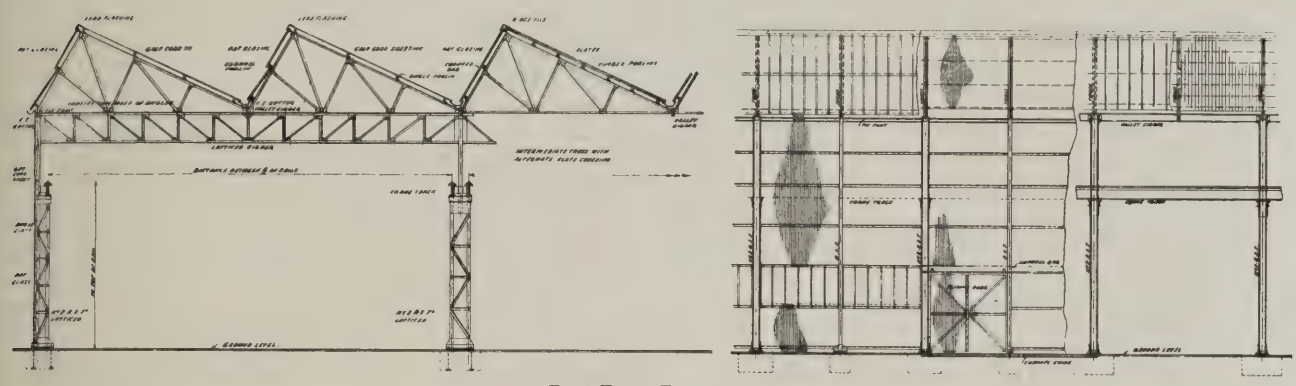
INTERIOR OF NATIONAL AEROPLANE FACTORY, CROYDON, SHOWING NORTH LIGHTS.



NATIONAL AEROPLANE FACTORY, CROYDON. LATTICE ROOF GIRDER (TYPE NO. 1).



Roof Truss Type No. 2.



Roof Truss Type No. 3.

being essential, the spacing of the stanchions can be arranged irrespective of the machinery. In these circumstances, brackets can be fixed to the stanchions to support crane girders, and the stanchions can also be adapted to receive shafting if this provision be deemed desirable. Where a comparatively low building is wanted, this form of construction is economical, as the stanchions, being set close together, can be of comparatively light scantling.

The covering of the long slope of the roof consists usually of corrugated sheeting, corrugated asbestos, or boards and slates. In fact, almost any kind of roofing material can be used.

Type No. 3.—This method of construction is suggested where a north light is required over fairly large spans, north-light trusses being supported on the valley beams which, in their turn, are carried by braced double roof trusses, which, it will be seen, assume to some extent the functions of lattice girders. This type of construction is suitable for large, lofty buildings where big span cranes, of light or of heavy type, are required.

THE EDITION DE LUXE OF

The Architectural Etchings and Water Colours of W. Walcot

was a strictly limited numbered issue which was three times over subscribed before publication.

The Publishers have had a number of applications for copies of this Special Edition and have at last been able to repurchase about a dozen copies. These they now offer to private collectors at £8 8s. each.

The price for this book is rapidly advancing, as it contains a signed original etching by Mr. Walcot, which alone is worth the price asked for the book. Orders should be sent to :—

TECHNICAL JOURNALS, LTD.,
7-29, TOTHILL STREET, WESTMINSTER.

Northern Architectural Association.

Mr. G. T. Brown, F.R.I.B.A., presided over a large attendance at a recent meeting of the Northern Architectural Association held at Newcastle. The chairman submitted a draft of a letter to be sent to the R.I.B.A. Council on the local authorities' new powers with regard to "luxury" buildings.

It was suggested that the Institute should draw the attention of the Government to the following points:—

(1) As far as possible steps should be taken to remove the disabilities which prevent the provision of houses by private enterprise, and particularly the following: The removal of the Restriction of Rents Act, the adjustment of assessment for rating; the removal of unduly restrictive bye-laws; the repeal of the 1909-10 Finance Act; the extension of facilities for companies, societies and individuals to obtain capital for the erection of cottages.

(2) As to existing estates already laid out, the Government should be asked further to assist in the policy of the erection of houses on estates which have already been prepared for building by the laying of sewers and the paving of streets.

(3) Further consideration should be given as to the co-operation of builders and public authorities. We view with satisfaction the movement of the Builders' Federation in Newcastle whereby the local association has undertaken, on terms which have, we understand, been agreed to by the public authorities, to provide 500 houses on the basis of the lowest tender in a batch recently submitted, the Builders' Association taking charge of the scheme and arranging the details among its members. We would urge that this scheme be adopted throughout the country by both local authorities and members of the Builders' Federation where difficulties have arisen as to getting houses built.

In conclusion, they hoped that the Institute would realise the serious position which was likely to exist if those restrictive powers now conferred upon local authorities were likely to be freely exercised, and hoped that some definite steps would be taken as speedily as possible in the interests of the profession.

The Chairman thought that if the Government were induced to do something in this matter it might have a tendency to restart private enterprise. If this matter could be righted, a good deal would have been done for the practising architect.

Mr. Milburn expressed disappointment with the methods adopted by the Government in dealing with the housing question. There were sites prepared for building, but they did not take the opportunity afforded them of getting houses erected. He did think they should push this for all it was worth. In a certain town he knew there were 1,000 sites already prepared—streets made and the sewerage system in order. They could effect a great saving by building houses on these sites, and at a price considerably lower than the Government scheme. Dr. Addison's proposal for this year was 200,000 houses, and he reckoned that the Government could save £50,000,000 by utilising these spare sites and building houses in blocks of eight or sixteen. The Government must realise that the man who planned the building of the houses must be a man who built houses in the past. The general contractor was not the man who could make a saving at house-building. Unless they got on with houses the builders were going to do their best, and the profession was going to be absolutely starved.

Several members expressed the opinion that if the Government were prepared to leave the housing problem in the hands of private enterprise the work would be more speedily accomplished at a considerable saving.

[These recommendations lend a special interest to Major Barnes's article on p. 280.]

The Week's News

William Morris Hall.

A proposal is on foot to erect a village hall at Kelmscott as a memorial to William Morris.

Harrow Memorial.

Harrow School Governors have given a site on Grove Hill for the town war memorial.

Suffolk Memorial.

Lord Iveagh is erecting a war memorial monument 150 ft. high on his Suffolk estate at the point where the villages of Elveden, Icklingham, and Eriswell join.

Department of Scientific and Industrial Research.

The Department of Scientific and Industrial Research has moved to 16-18, Old Queen Street, Westminster, S.W.1. Telephone: Victoria 7940.

St. Annes' War Memorial.

As a war memorial, the residents of St. Annes have decided to erect a cottage hospital, at a cost of £20,000. Over £5,000 has already been raised towards the cost.

Common Land for Housing.

The Chertsey R.D.C. are applying to the Ministry of Agriculture for consent to enclose two acres of Chobham Common for housing. This is the first application for the enclosure of a country common.

Timber Imports to Poland.

The Czech commercial classes have drafted a plan to regulate the timber importations and exportations with Poland, and, incidentally, by an agreed rate to settle all questions of exchange between the two countries.—Reuter's Trade Service.

New Hotel for Scarborough.

Scarborough is to have a new hotel on the South Cliff, overlooking the Holbeck Gardens. The plans provide for 200 bedrooms and a dining-room to seat 300. It is not expected that the hotel, to be known as the "Raincliffe," will be ready for occupation until Whitsuntide next year.

Granite Quarrying.

There is no scarcity of building materials in Aberdeen. Over 10,000 tons of excellent building material—enough to build thirty or forty moderately-sized houses—are lying at Rubislaw Quarries waiting for the coming building boom. About 300,000 tons of stones suitable for "half-ware" and ashlar, were sold to the Corporation some time ago, and are at present being made into setts and paving.

Bohuslaen Stone Industry.

According to Svensk Handelstidningen, the Bohuslaen stone industry is labouring under serious difficulties. The production is hardly one-fourth of that attained before the war, wages have increased by 100 per cent., and the cost of transport from the quarries to destination by 300 per cent. Moreover, export is impossible owing to the present rates of exchange and the high freights.—Reuter's Trade Service.

Weston Rhyn Garden Village.

In publishing the illustrations of the lay-out and of the elevations of the typical houses erected at Weston Rhyn Garden Village, Salop, in our issue of February 11, we omitted to mention that the scheme has been carried out by the Welsh Town Planning and Housing Trust, Ltd., of Cardiff. As stated in that issue the architect is Mr. T. Alwyn Lloyd, Licentiate R.I.B.A., and the deputy-architect, Mr. J. A. Hallam.

Mr. Fernand Billerey and Architectural Students.

Mr. Fernand Billerey meets students of architecture at No. 10, Grosvenor Road, Westminster, on the first and third Wednesdays of each month to discuss their work and to set subjects for practice. Mr. Billerey will be pleased to admit those who may be introduced, or who take a genuine interest in the study of architecture. There is no fee or charge in connection with these interviews.

Architects' Fees for State-aided Housing Schemes.

The Council of the R.I.B.A. have been informed that the official scale of fees has proved to be inadequate in many cases in which housing schemes are being undertaken on widely scattered sites in rural districts. If any members are able to afford information bearing on this point, the Council would be glad to receive it for consideration. Particulars should be addressed to the Secretary, R.I.B.A., 9, Conduit Street, W.1.

Chatsworth's Conservatory.

The famous conservatory at Chatsworth, which was designed and erected by Sir Thomas Paxton, is now being demolished and will in the next four months be razed to the ground. Owing to the great coal shortage and the difficulty of finding labour it has been found to be an absolute impossibility to carry on this mammoth glass palace, and it was decided to dismantle. On the site it is proposed to form ornamental gardens something after the style of the equally well-known Italian gardens in the grounds at Chatsworth.

Notts and Derby Architectural Society.

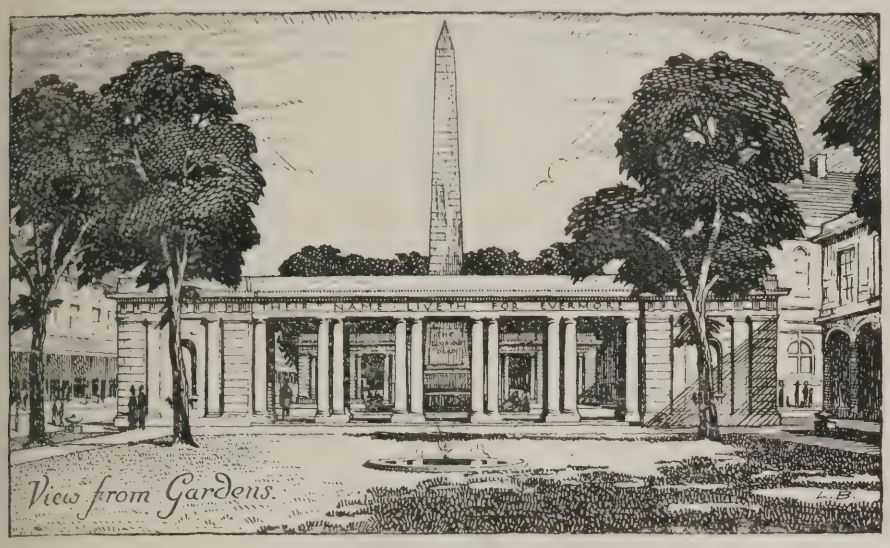
That the spirit of cities should be emphasised in their architectural feature was the theme of a lecture given to the Notts and Derby Architectural Society at Derby. The speaker, Mr. F. Haywood, of Birmingham, urged that the idea should be for public and private buildings to be designed to give the best possible effect to the spirit of the city, and that factories and other industrial buildings could be erected on these lines. To emphasise his points he showed lantern slides of some of the older towns of Italy as well as notable modern buildings in New York.

Nottingham's City Schemes.

Nottingham Corporation's schemes for the near and the distant future include three new elementary and intermediate schools, one costing £32,000, in the central area, and two, at £50,000 each, in the district, and there were two secondary schools under consideration for the district at £50,000 each. In addition, there are such items as a new abattoir for the city and district, which will cost £100,000, city asylums extension £75,000, tuberculosis hospital £50,000 (of which 8 per cent. will be borne by the State), venereal disease hospital £40,000 (75 per cent. borne by the State), conversion of pail closets £250,000, destructor at Basford £20,000, three for the outside districts at £20,000 each, new central library

SOUTHPORT WAR MEMORIAL COMPETITION: FIRST PREMIATED DESIGN.

GRAYSON AND BARNISH, F. and A.R.I.B.A., ARCHITECTS.



SOUTHPORT WAR MEMORIAL COMPETITION: FIRST PREMIATED DESIGN.

£50,000, and two for the district at £15,000 each, three new fire stations £30,000, three new engines £6,000, a new central bath £50,000, and three new ones in the district at £90,000, making a total expenditure of £1,638,000, and an annual cost of loan charges of £114,600.

Charing Cross Bridge.

The L.C.C. has discussed the question of rebuilding Charing Cross Bridge as a war memorial. The Improvements Committee had the railway company's proposals under consideration, and had conferred with representatives of the R.I.B.A. and of the London Society. The Council's attitude was that the railway company should not be permitted to carry out extensive works until the various authorities and bodies interested had considered schemes for the improvement of the area occupied by Charing Cross Station and Bridge. The Council was not committed to any particular policy.

Ulster Society of Architects.

The annual general meeting of the Ulster Society of Architects has been held in Belfast under the chairmanship of Mr. N. Fitzsimons, the president. The Secretary read the report of the Council on the useful work done by the Society during the war period and since the termination of hostilities. The Society had co-operated with the Corporation in connection with the Housing of the Working Classes (Ireland) Act, and with the Library and Technical Committee in connection with the formation of the Architectural Course at the Technical Institute. The following were elected officers of the Society for 1920: President, Mr. T. W. Henry; Vice-President, Mr. R. I. Calwell; Hon. Treasurer, Mr. W. C. Maxwell; Hon. Secretary, Mr. E. R. Kennedy; Council, Messrs. R. M. Young, N. Fitzsimons, R. E. Buchanan, J. J. McDonnell, J. St. J. Phillips; Associated Members of Council, Messrs. R. H. Gibson and Jackson Smith; Hon. Auditors, Messrs. J. A. Hanna and J. Seeds; Secretary, Mr. J. A. Johnston, 8, Ocean Buildings, Belfast.

Southport War Memorial.

On this and the preceding page we illustrate the winning design in the above competition, for which a premium of £250 was awarded. The second prize (£200) went to Mr. Harold Falkner, and the third (£150) to Messrs. Wilson and Jones.

Obituary

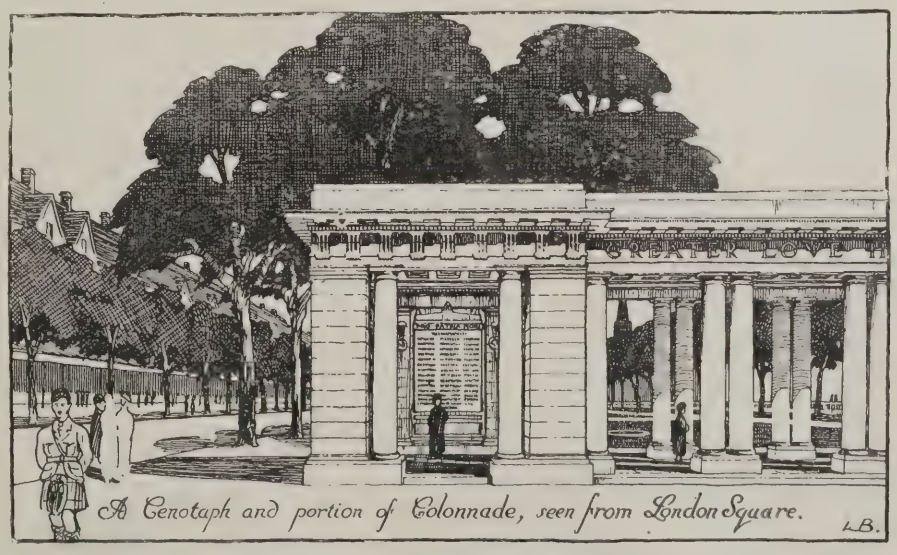
Mr. P. C. Thicknesse, F.R.I.B.A.

We regret to announce the death of Mr. Philip C. Thicknesse, F.R.I.B.A., of the well-known firm of architects of Willink and Thicknesse, FF.R.I.B.A., of Liverpool. Mr. Thicknesse was educated at Marlborough School and at the Royal Academy Schools, was articled to Mr. R. Norman Shaw, R.A., and in 1884 commenced practice at Liverpool. Among the architectural competitions won by Mr. Thicknesse were those for secondary schools at Goole and Wallasey, Queen Victoria Memorial at Liverpool and the Parish Offices at Ormskirk. The name of Mr. Thicknesse has been connected with a very large amount of important work, which included the School of Art, the University and University Laboratories, Cunard Steamship Offices, and the Booth Steamship Offices at Liverpool; Goole Secondary School, Grammar Schools at Wallasey and Macclesfield; Lancaster County Asylum Hospital, besides a great deal of domestic architecture and work on the Cunard and the Booth Steamship Companies' ships. Mr. Thicknesse, who was sixty years of age, had served on the Council of the R.I.B.A. and on the Council of the Liverpool A.A., of which he was a past president.

Retirement of Sir Charles Ruthen

Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., has resigned his position as Chief Inspector to the War Cabinet Committee on Accommodation and Deputy Controller of Accommodation for London Area. Sir Charles, at the request of H.M. First Commissioner of Works, in conjunction with Sir Leonard Powell, J.P., undertook in January, 1917, to inspect and report upon the use made by Government Departments of their office accommodation. The success of this new office was considered so great that in January, 1918, Sir Charles was appointed Chief Inspector and the inspectorate was enlarged. The Chief Inspector was at the same time also appointed Deputy Controller of Accommodation for the entire London area. H.M. First Commissioner of Works (Sir Alfred Mond, Bart., M.P.), in accepting Sir Charles Ruthen's resignation of these honorary appointments, states that he does so with the greatest regret, and places on record his "sincere appreciation of the great services to the country in this work of accommodation." Sir Alfred Mond further states in writing to Sir Charles Ruthen: "The excellent results achieved have more than justified my confidence in you when I invited you to accept these positions. I am proud to think that in this section of my administrative work I have been able to avail myself of your able services and, despite the enormous difficulties, that we have achieved some sound and practical results, I thank you most sincerely for all you have done." The First Commissioner considering that "the work of the Cabinet Committee on Accommodation would be seriously handicapped if Sir Charles Ruthen were to sever his connection entirely with the Department," has appointed Sir Charles Ruthen Consulting Chief Inspector in order that the Committee, in any difficult circumstances, may avail itself of his valuable services.

It will be remembered that Sir Charles has produced a system of rapid and economical construction for houses which, after exhaustive experiments at Newton, Mumbles, near Swansea, has since been widely adopted. This was described in our Christmas issue.



SOUTHPORT WAR MEMORIAL COMPETITION: FIRST PREMIATED DESIGN.

GRAYSON AND BARNISH, F. and A.R.I.B.A., ARCHITECTS.

Aero-Block Construction

THE outstanding claims made for a new form of concrete block construction, called the Aero-block (which has been invented by Mr. J. A. A. Nystrom, and has received the approval of the Ministry of Health for use in connection with housing schemes), are perfect air isolation, lightness, and great supporting power. Each Aero-block has two or more rows of air spaces, and, as will be seen by the diagrams 1 to 4, wherever an imaginary straight line crosses the wall and the plane of the rows of air spaces it must pass through at least one air space. Fig. 4 also shows that a wall made of Aero-blocks will be strong owing to the special construction and to the large contact faces at the ends of the blocks, thus enabling them to be reinforced and the joints to be filled with cement. The courses and joints of the blocks when bound together are exposed to the air on all sides. The interior and exterior of the blocks are in direct and close contact with the air, thus forming the best isolating medium. In consequence of the prevention of the passing of heat and cold from the outside to the inside of the wall, the conductivity of the block is actually reduced by the influence of the air surrounding the block and circulating through it. All hollow spaces belonging to the same row of hollow spaces in the blocks of the wall communicate with each other throughout the whole height and width of the wall without making any extra channels through the blocks.

Fig. 1.

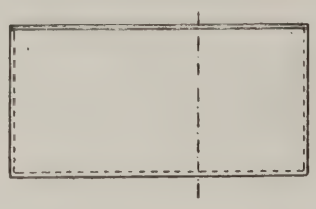


Fig 2.

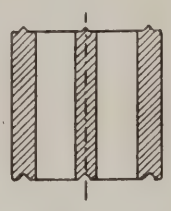
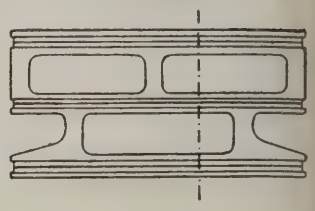


Fig. 3.



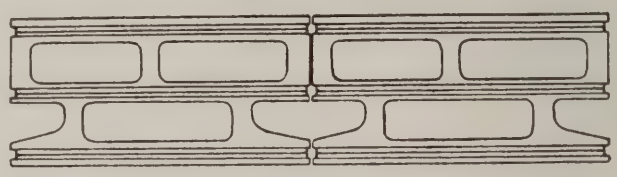
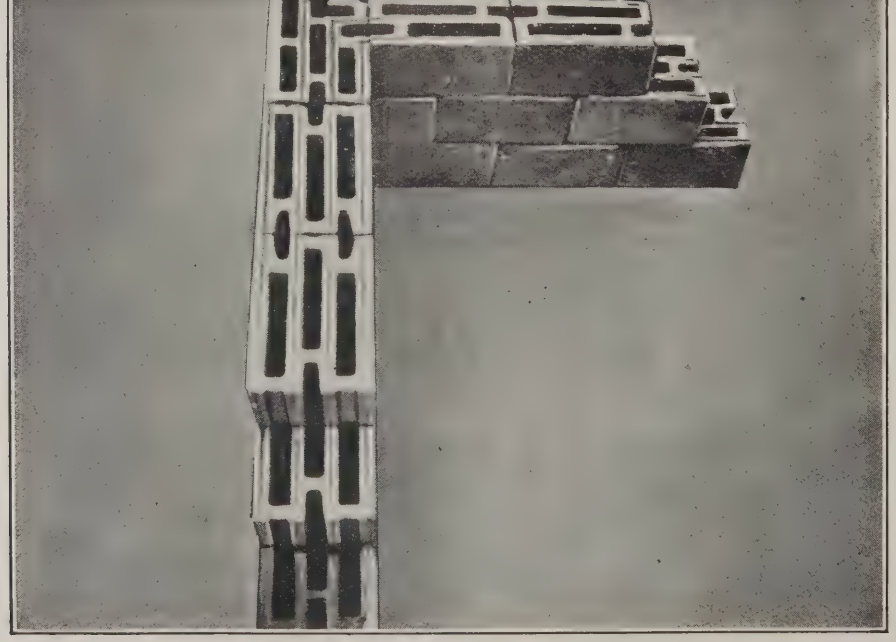


Fig 4.

In order to afford proof of the ability of Aero-blocks to withstand the crushing strain brought to bear upon them when used for house-building, sample blocks were submitted to the Portland cement testing works and chemical laboratories of Messrs. Faija and Co., of Westminster, the samples submitted consisting of: (a) Three blocks 11¾ in. by 6¼ in. by 6 in. external dimensions, (b) three blocks 11¾ in. by 8 in. by 6 in. external dimensions: these were of hollow construction, and were composed of four parts of sand to one part Portland cement. Two of each kind of block were tested for resistance to compressive stress, the blocks being placed on edge in the machine for testing. The smaller block had an average resistance of 37.32 tons per sq. ft. on the net area, and 22.78 tons per sq. ft. on the gross area, the average resistance of the larger block being 36.9 tons net and 21.16 tons gross respectively. In their report Messrs. Faija and Co. state that, for the construction of cottages, Aero-blocks appear to have several advantages. They are comparatively light, while their hollow design should render the internal walls both free from damp and also "sweating," or condensation with changes of atmospheric temperature. Moreover, the air enclosed in the hollow spaces would act as a non-conductor and would tend to render the buildings warm in winter and cool in summer.

Among the advantages claimed for Aero-concrete hollow blocks are the following: (1) Low cost and quick erection as compared with other building materials; as against some materials a saving of 30 to 50 per cent. is effected. Aero-blocks can be made on the site where the building is to be erected from local materials available. (2) Durability on account of the perfect system of air-circulation. Aero-blocks improve with age, and therefore the cost of maintenance is practically nil. (3) Regulation of temperature. Houses built of Aero-blocks are warm in winter and cool in summer. No unhealthy damp walls in wet climates. Damp-proof rooms are assured by Aero-blocks. (4) Low risk for fire insurance. A well-constructed and carefully erected building of reinforced concrete and hollow blocks practically cannot be destroyed by fire. In the great fires in Baltimore in 1904 and in San Francisco in 1908 buildings of reinforced concrete and hollow blocks were the only ones to withstand the onslaught of the flames.

The following specifications cover Aero-block machines and accessories: (1) Aero-block-making machine, with key and frame, with either two sets of moulds for blocks with two air spaces, 1,500 pallets for blocks with two air spaces, or (2) sets of moulds for blocks with three air spaces 1,500 pallets for blocks with three air spaces; tools and accessories. Mould and pallets for blocks with both two- and three-air spaces can be furnished if required with the same machine. The materials entering into the construction of Aero-blocks should be tested cement, pure coarse-grained sand, and water. One part of cement to five parts of sand. The capacity of each machine is claimed to be about 1,000 blocks per day of ten hours, provided proper facilities for quickly handling materials entering into the construction of Aero-blocks are obtainable at the point of manufacture. Each machine requires four men to operate, of which two attend to the block-making and the other two mix and carry the mass to the block-making machine, pick out and transport the blocks to the storing place, pile them up and water them. After arrival at the storing place the blocks should at least be watered once a day during a period of eight days, and a period of two or three weeks allowed before they are employed for building purposes. Machines can be purchased outright or leased as desired from the makers, Messrs. S. Thornely Mott and Vines, Ltd., engineers and contractors, of 11, Old Queen Street, Westminster, S.W.1.



SECTION OF WALLS CONSTRUCTED OF AERO-BLOCKS WITH THREE-CELL AIR SPACES.

Current Prices of Materials

NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ie and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
AVATOR AND CONCRETOR	
avator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
ourer, 1s. 8d. per hour.	
vy, 1s. 8d. per hour.	
berman, 1s. 9d. per ur.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
	In stiff clay, add 50 per cent.
folder, 1s 9d. per hour.	In underpinning, add 120 per cent.
chman, 6s. 6d. per shift.	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
ken brick or stone, in., 7s. per yd.	Headings, including timbering, add 400 per cent.
nes ballast, 17s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Gravel, 17s. 6d. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
sand, 18s. 9d. per yd.	Planking, 5½d. per ft. sup.
hed sand, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
ened ballast or gravel, d 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
ker, breeze, etc., prices cording to locality.	Do. 6 in. thick, 2s. 9d. per yd. sup.
land cement, 79s. per n.	Puddling, 30s. per yd. cube.
	Cement concrete, 4.2.1, 53s. per yd. cube.
in small lots, ex ndon stock, 100s. per n.	Do. 6.2.1, 49s. 9d. per yd. cube.
	Do. in upper floors, add 12½ per cent.
	Do. in ferro concrete work, add 20 per cent.
	Do. in underpinning, add 50 per cent.
lime, 64s. per ton.	Lias lime concrete 41s. 3d. per yd. cube.
ts charged extra at . 6d. each and credited ien returned at 2s.	Breeze concrete, 26s. per yd. cube.
	Do. in lintols, etc., 4s. 9d. per ft. cube.
nsport hire per day:	
rt and horse, 26s.	
ton motor lorry, £6 10s.	
eam lorry, 5-ton, £7.	
ailer, 30s.	
eam roller, £4 10s.	
ater cart, 30s.	
INER.	
ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
berman, 1s. 9d. per ur.	Cast-iron drains, jointed in lead, 4-in. 8s. 3d., 6-in. 14s. 6d., 9-in. 25s. 6d. per ft.
klayer, 1s. 11½d. per ur.	Note.—These prices include digging and filling for normal depths, and are avera prices.
nber, 2s. per hour.	
chman, 6s. 6d. per shift.	
eware pipes, tested ality, 4-in. 3s., 6-in. . 9d., 9-in. 7s. 11d. per	
iron pipes, coated, t. lengths, 4-in. 4s., n. 5s. 9d., 9-in. 8s. 6d. r yd.	
land cement and sand, e Excavator above.	
d for caulking, 49s. 3d. r cwt.	
cet, 1s. 9d. per lb.	
CKLAYER.	
klayers, 1s. 11½d. per ur.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
folder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
ion stocks, 84s. 6d. per	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
tons, 75s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
fordshire blue, 220s. r M.	Do. picked stocks, 6d. per ft. sup. extra.
	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
bricks, 2½ in., 223s. per	
ed, salt, white, and ory stretchers, £25 r M.	Struck pointing, 4d. per ft. sup. extra.
	Tuck pointing, 10½d. per ft. sup. extra.
headers, £24 10s. r M.	Weather pointing, 4d. per ft. sup. extra.
urs, extra, 130s. per M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
nds, less, £1 per M.	Do. 1½-in., 5s. 10d. per yd. sup.
ent and sand, see Ex- vator above.	Do. 2-in., 7s. 6d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
, grey stone, 62s. per n.	Asphalte damp course, ½-in., 1s. 2d. per ft. sup.
	Do. vertical, 1s. 6d. per ft. sup.
d lime mortar, 24s. 3d. r yd.	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 10s. 9d. per yd.
p course, in rolls of in. 4s., 9 in. 7s. 3d., in. 10s. 9d., 18 in. s. per roll.	Do. skirting, 6-in., 1s. 5d. per yd.
ON (INCLUDING SLATE).	
on, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
ourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
folder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
	Sunk face, 3s. 1d. per ft. sup.
land stone:	Do. circular, 3s. 8d. per ft. sup.
hitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. per ft. sup.
	Do. sunk, 2s. per ft. sup.
sebed, 4s. 8d. per ft. cube.	Do. do. circular, 2s. 8d. per ft. sup.
	Circular-circular work, 10s. 3d. per ft. sup.
stone, 3s. 1d. per ft. cube.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
sfield red, 7s. 6d.	Do. circular, 10½d. per ft. run
ial trade extras for ge blocks.)	Half sawing, 9d. per ft. sup.
paving, av. 2½ in. 6d. per ft. sup.	Add to the foregoing prices if in York stone 35 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 78s., Countess 86s., Duchess 95s. per square.
Tiler, 1s. 11½d. per hour.	
Scaffolder, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 145s. per square.
Labourer, 1s. 8d. per hour.	
N.B.—Tiling is often "Piecework."	Delabole do. 90s. per square.
	Add, if vertical, 5s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 11d. per ft. approx.
	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 87s. 6d. per square.
	Do. machine-made do. 80s. per square.
Clips, lead, 9½d. per lb.	Fixing lead soakers, 9½d. per dozen.
Clips, copper, 2s. 4d. per lb.	
Nails, compo, 56s. 6d. per cwt.	
Nails, copper, 2s. 8d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggies 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel:	Centering for concrete, etc., including horsing and striking, 93s. per sq.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Slate battening, 29s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	1-in. deal gutter board on firring, 108s. per sq.
	1¼-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	2-in. do. do. 4s. 3d. per ft. sup.
	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Do. F.E., 3rd and U/S. £58.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
	Do. do. do. 1½in., 3s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	If in oak multiply 6 times.
	If in mahogany multiply 6 times.
	If in teak multiply 7½ times.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d., 1¼-in. 16s. per yd. sup., average.
	Staircase work, deal: 1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup. of 1 in.	
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 81s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 4d. per ft.
Lead, milled sheet, 62s. per cwt.	Do. ¾-in., 3s. per ft.
	Do. 1-in., 3s. 6d. per ft.
Do. Drawn pipes, 62s. 6d. per cwt.	Do. 1¼-n., 4s. per ft.
	Lead waste or soil, fixed as above, complete, 2½-in., 10s. per ft.
Do. soil pipe, 67s. 6d. per cwt.	Do. 3-in., 10s. 9d. per ft.
Do. scrap, 30s. per cwt.	Do. 4-in., 15s. 6d. per ft.
Copper, sheet, 2s. 8d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Solder, plumbers, 1s. 6d. per lb.	Do. 3-in., 2s. 8d. per ft.
	Do. 4-in., 3s. 5d. per ft.
Do. fine, 2s. 4d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
Red and white lead, 9d. per lb.	Do. O.G., 4-in., 2s. 1d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each.
	Baths only, with all joints, 37s. 6d. each.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 4¼d., 26 oz. 1s. 5¾d., 32 oz. 1s. 7¼d. per ft.
Glass:	
Clear, 21 oz. 9¾d., 26 oz. 10¾d., 32 oz. 1s. 0¼d. per ft.	Glazing in beads, 21 oz. 1s. 2¼d., 26 oz. 1s. 3¼d., 32 oz. 1s. 4¼d. per ft.
Cathedral, ordinary, 9¼d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 1s. 0¼d. per ft	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 6d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
	Do. in Thistle plaster, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Sawn laths, 3s. 8d. per bdl.	
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 65s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
Do. fine, 66s. 6d. per ton.	
Plaster, 64s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 65s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 95s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Figured do. do. 7s. 9d. per yd. sup.
Turpentine, 10s. per gall.	French polishing, 1s. 9d. per ft. sup.
Liquid driers, 20s. per gall.	Stripping old paper and preparing, 2s. per piece.
Knotting, 29s. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.
Petrifying liquid, 3s. 6d. per gall.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Double size, 7s. per firkin.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Pumice stone, 9d. per lb.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Hard stopping, 7½d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per to
Erector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buildi in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cw
	Fixing only corrugated sheeting, including washe and driving screws, 1s. 5d. per yd.
Cast-iron, heavy	
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £47 per ton.	
Do. Galvd., £57 per ton.	
Corrugated sheets, black*	
Do. Galvd., £55 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including stu or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 2s. 10d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 4s. 7d. p yd. sup.
Do. corrugated, 6s. 3d. per yd. sup.	Do. do. corrugated, 8s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in pla colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Hanging only metal casements in, but not includi wood frames, 5s. 6d. each.
Do. in metal frames, 3s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft. su
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £23 10s. red £25 10s.	Asbestos slating or tiling on, but not includi battens or boards, plain "diamond" per squa grey 66s., red 67s. 3d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the co of cement used (about 3s. to 4s. per bushel cement).
Wrought iron R.W. goods:	
R.W. gutter, 4 in., per yd. 1s. 10d.	Gutter-fixed, 1s. 4½d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	R.W.P. fixed, 1s. 9d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.

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Coming Events

THURSDAY, MARCH 4.

Architects' and Surveyors' Assistants' Professional Union.—First anniversary. Among the towns in which meetings are to be held are the following: London: Caxton Hall, Westminster. 6.45 p.m. (Major H. Barnes, M.P., F.R.I.B.A., and Mr. Norman Wyld, general secretary Society of Technical Engineers). Manchester: Milton Hall, Deansgate. 7.30 p.m. Newcastle: Northern Architectural Association, 6, Higham Place. 7 p.m. Southampton: Morris Hall, Commercial Road. 7 p.m. Norwich: Y.M.C.A. Rooms, St. Giles. 8 p.m. A handicap competition has been arranged. For every recruit a town of under 250,000 population obtains, London must get ten, Glasgow, Liverpool, Manchester, Birmingham, Leeds, Sheffield, and Bristol three each, and other towns over 250,000 two each, each town drawing from the surrounding district.

MONDAY, MARCH 8.

Liverpool Architectural Society, 13, Harrington Street, Liverpool.—"The Flower Garden," by Mr. H. L. North, B.A., F.R.I.B.A. 6 p.m.

WEDNESDAY, MARCH 10.

Northern Architectural Association, 6, Higham Place, Newcastle-on-Tyne.—"Some Right Ways, Some Wrong Ways, and Some Suggestions" (with lantern illustrations), by Mr. N. Lloyd, O.B.E.

FRIDAY, MARCH 19.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "Some Notes on the Practical Application of Reinforced Concrete," by Dr. Oscar Faber, O.B.E., D.Sc. 6 p.m..

Our Small Advertisements

Vacancies are announced for architectural assistants in offices in London, Gloucester, Home Counties, etc., and one is required for London work by Messrs. William and Edward A. Hunt.

The Warwickshire County Council require a clerk of works to supervise the erection of cottages and small holdings, and the Southampton Corporation one for drainage, bridge, and building works.

The Ministry of Munitions announce a sale of sectional and other huts, and tenders are invited for alterations to the Stroud General Hospital.

"Specification," 1920

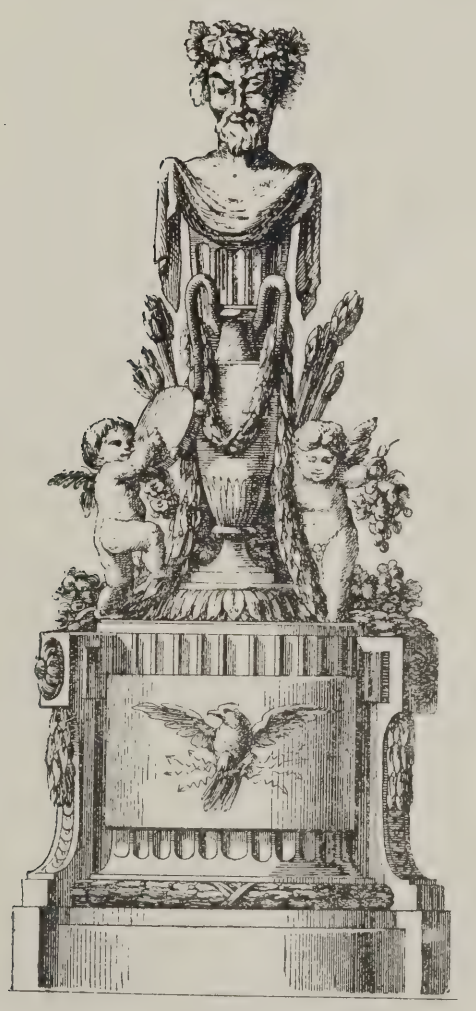
We have pleasure on announcing th the 1920 edition of "Specification" is no on sale and may be obtained at the offic of Technical Journals, Ltd., 27-29, Toth Street, S.W.1, or through any booksell or newsagent. The trade sections of th important yearly publication, of which M Frederick Chatterton, F.R.I.B.A., is t editor, have undergone very careful re sion, and where necessary much up-to-da information has been added to the Special articles on the designing of cinem theatres, the design and constructi of bungalows, sewage disposal f rural districts, substitute building mat rials for rapid construction, gas install tions for housing schemes, oil for domes cookery, modern factory construction, a the progress of the housing movement w be found of great value to all engaged architecture and building. It may be me tioned that these articles have been spe ally written for "Specification" and th most of them are copiously illustrate That on housing includes the Ministry Health's Standard Specification for C tages. The price is 5s. 9d. post free.

Wednesday, March 10, 1920

Volume LI. No. 1314

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



DETAIL BY DE LA FOSSE (VII).

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 7.—Palace of the Seminary, Todi: Front Entrance

Vignola, Architect

Giacomo Barozzio, much better known as Vignola (born 1507, died 1573), the scholarly author of a book on practical perspective, and of a treatise on the Orders, which is still in use as a text-book in the French schools, was always well seen in his designs for doorways, porches, gates. His were the famous Portico dei Banchi at Bologna, and the Porta del Popolo at Rome. The present example is mainly remarkable for its graceful proportions, and for the lesson it conveys of the dignity conferred by such a feature even where spaciousness is not at command.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, March 10, 1920 Volume LI. No. 1314

"Classic" and "Romantic"

MR. BOWLES—a poet of some celebrity in the early part of the last century—asked what the Pyramids would be without the desert. And Byron replied, what about the desert without the Pyramids? Indeed, he went further and claimed that supposing the great Pyramids were plumped down in the square of Lincoln's Inn Fields, it would still be an imposing spectacle. From this exchange of views we may gather that Mr. Bowles belonged to the romantic school, and Byron, for this occasion at any rate, supported the classic. "Romance," said Robert Louis Stevenson, "is the poetry of Circumstance. Its interest depends on accident or incident. Eloquence and thought character and conversation, were but obstacles to brush aside as we dug blithely after a certain sort of incident, like a pig for truffles." But eloquence and thought, character and circumstance, form style and plot or composition, elements that constitute the classic, and any work may become a classic in which these have received their due recognition. Without this recognition, the direct antithesis to classic is arrived at, and that is the commonplace.

The term obtains from the fact that the Roman people were early in their history divided into classes, and "classic" came to denote the foremost of these. Hence *classicus scriptor* or *classicus pictor* signified an author or a painter of the highest ability. And classic, in its most discriminating sense, means the same thing still, something that is distinguished, that belongs to the first order. Used in a general way, it means, as we know, anything that has been handed down from Greek or Roman times. It would seem, then, that incident or accident, something that surprises or that stands out for the moment, at least, from the composition and arrests our attention, is the especial characteristic of the romantic. Or indeed such incidents or accidents may be no part of the composition at all, but belong to environment, as in the instance suggested by Mr. Bowles. Romance, in the most significant application of the word, truly belongs to story-telling, in which connection it has the greatest opportunity for action; and as its name suggests, it originated in those times when Romance languages were spoken and written principally in France and Spain. In the eleventh and twelfth centuries the stories and legends began to take shape that developed into the Arthurian legends and legends of Charlemange, while the saints' lives furnished material for the mystery play. Stories from the classics were requisitioned; much came from the East, and much more from sources that cannot be traced.

It has been said that life is made up of the little things, and it is the little things, the human touches, that provide romance. But the little things affected the life of the ancients as they affect us now. And had it not been that the poets after the Restoration took so very limited a view of their art, the term "romantic" would never have established itself as representing a school, the romantic, in short, as opposed to classic. But the artificial manner of these poets, a manner that they falsely interpreted as the classic manner, added to the fact that fashion insisted that all who would be in the fashion must have read Mr. Pope's translation of Homer or Mr. Dryden's Virgil, wearied the more intelligent part of the reading public, and what became known as the romantic revival was the result. The Percy Hallads, Thompson's Seasons, and ultimately Wordsworth and Byron put an end to the pseudo-classic in poetry. In painting, Reynold's children, Constable's landscapes, and finally Turner, put Claude and Salvator Rosa in the background.

In architecture the change came more slowly; it had indeed to wait for Pugin and the Oxford Movement. But "romantic" as here applied had a different significance to that when related to poetry or to painting. The term used architecturally merely inferred that the pointed style in some measure approximated with the birth of romantic literature. The light that was shed upon architecture was a borrowed light, just as the Pyramids stood in the borrowed light of the desert to the eye of Mr. Bowles. The pointed arch conveys no greater sense of romance than the round arch or the beam. The distinction lies in the handling of these features, and not in the features themselves. The exponents of pointed architecture of the revival were as hidebound as to the form, and as mistaken as to the spirit of their art, as were the so-called classic poets of the seventeenth and eighteenth centuries. This spirit was recognised by a few, such as Burges, E. W. Godwin, and Pritchard, just as poetry claimed its Herrick. Form in architecture is legitimately a matter of choice, but it must be subservient to the needs of the community; and we shall be wiser to look to a civilisation nearer our own for tradition, rather than to conditions so remote as those prevailing during the middle ages.

A unity of conception, the subordination of parts to a whole, is the fundamental spirit of classic architecture, using the term in its broad sense, whatever the detail may be, and we find this spirit in the most noticeable of the mediæval buildings, dominating the poetry of circumstance and the genius for surprise with which it abounds. But we find the same elements in the architecture of Greece and Rome, sometimes more restrained, sometimes more clamorous for recognition than was ever ventured in the Gothic period. If the outstanding feature which constitutes romance consists in its appeal to the human interest, surely the most conservative of classic styles, the Athenian temple form, is saturated with it. The Panathenaic Procession that surrounds the Parthenon walls with its wealth of maids and horsemen, citizens and allies, tells a story of ceremonial that man and child may read, while the pediments tell us of another. These are connected stories, the full bloom of romantic endeavours. Or what could have been more surprising—if we ask for surprise—than to have discovered a statue of Athene sixty feet high within the temple, her head hid in the roof trees? There was a challenge indeed to those stern demands of scale, which we recognise, and for the most part wisely. The

figure of Victory raised upon a pedestal twenty feet high which surmounted the pediment at Olympia, must have been another surprise, while the portico of the Erechtheum with its girl basket carriers in places of columns, still makes the classical legitimist feel a little shy.

It may be said that these examples refer to sculpture. But sculpture, subordinate to architecture, has ever been a means of expression sought for by the great builders. The architectural sculptor of Athens belonged to a distinct class, while the cathedral builder had at his command the imagers and effigy makers for the adornment of his west front. Architecture to-day is the poorer for the lack of these. Yet that human interest that pervades all art, if not so directly manifested as under the hands of the painter and the sculptor, is at the disposal of the architect who would rely for expression on purely architectural form, expression that has learned its speech from the language of the great masterpieces. None other is admissible, for anachronisms are resented by the verdict of time. But individual caprice and the play of character, life drawn from a human source though expressed in material form, —this is a quality of all art that would survive the time of this and that little school. If the peripteral temple form was accepted by the Greek, the detail is never the same, the same contour of moulding never repeated. The Italian Renaissance architect was entirely fancy-free, so much so that some are scarcely included as classic architects at all. And if the element of romance is to be excluded, perhaps they were not. But if Emerson is right, such exclusion is arbitrary and contrary to the breadth and geniality enjoyed by the classic temper. Even Palladio may remain within the fold—romanticist though he might be. The lilt and sway of song and dance were never far removed from Greek expression. And was not the story of the Odyssey after all the first in the field of Romance?

C. J. TAIT.

Notes and Comments

Land Law Reform

AT length the first serious attempt is being made to tidy-up our disreputable land laws. It is a gigantic task, which the present Government does not seem strong enough to tackle. The Land Bill—called the Law of Property Bill—brought in by the Lord Chancellor last Wednesday, comprises no fewer than 250 pages. And its object is to simplify the land laws! Before that can be done it will surely be necessary to simplify the Bill; which, however, is far more likely to be further complicated in committee—which is to be a joint-committee of both Houses. It aims first of all at consolidating the various systems—copyhold, customary manorial land, and gavelkind—and at abolishing the distinctions between real and personal property and chattels real. As the Lord Chancellor said: "The principle of the Bill is to assimilate all classes of property. It is to make registration of title compulsory, and all copyhold land is to become freehold." It may be that as the Marquess of Lincolnshire commented, "the measure would put an end to feudal, almost patriarchal, conditions of land tenure," but the unanimity with which it was praised in the House of Lords will awaken a suspicion that it is a device for staving off a more drastic Bill. We prefer to regard this almost startling unanimity as the outcome of a genuine and general desire to reform an antiquated system that is at last seen and felt to be a fundamental obstruction to development. Bad land laws have consequences that stretch far beyond their immediate effect in the restriction of building.

The Royal Gold Medal

The Council of the R.I.B.A. is to be unreservedly congratulated on its nomination of M. Ch. Girault for the Royal Gold Medal. To refer to the bonds that attach us more closely than ever to France, or to the fact that the President of the Institute is a warm friend of French architects, and a corresponding member of l'Institut, is not to detract from the merit of the artist. These are but sentimental and subsidiary considerations, which might well be allowed to sway delicately balanced claims; but, quite apart from such accidents of the situation, there can be no question that M. Girault's architectural standing and achievements have fully earned for him the highest distinction which it is in the power of the R.I.B.A. to bestow. It is sufficient to say that he is the architect of the Petit Palais in the Champs Elysées, Paris. When it was decided to hold in 1880, an exhibition at Brussels to celebrate the Jubilee of the Kingdom of Belgium, King Leopold II. invited M. Girault to build the triumphal arch at the entrance to the avenue which leads to the stately Congo Museum, of which building also M. Ch. Girault is the architect. Of the many other fine buildings that stand to his credit more will be said hereafter. M. Girault is the thirteenth French architect to be awarded the Royal Gold Medal. The list is as follows: 1855, J. I. Hittorff; 1861, J. B. Lesueur; 1864, E. Viollet-le-Duc; 1867, Charles Texier; 1876, Joseph Louis Duc; 1879, Charles Jean Melchior, Marquis de Vogue; 1886, Charles Garnier; 1892, César Daly; 1904, Auguste Choisy; 1908, Honoré Daumet; 1914, Jean Louis Pascal; 1917, Henri-Paul Nénot. Surely a very imposing array, to which the name of Girault will add fresh lustre.

Museums and Architecture

Our reference to the limitations imposed on the usefulness of our museums has been promptly followed by a debate on the subject in the House of Lords. A motion by Lord Sudeley, asking the Government to appoint a committee to consider how these institutions can be further adapted to public needs, and be made "of far greater use for public benefit and instruction," was withdrawn after a very useful discussion. Personal guides and lecturers to explain the exhibits were strongly advocated by the Archbishop of Canterbury; and Viscount Bryce urged the further development of Kew Gardens by, for example, setting up a research department which would be specially useful with regard to forestry and foodstuffs. So many of the exhibits in museums being of architectural interest, the Archbishop's suggestion is one that should specially commend itself to the R.I.B.A., who should press for an extension of the practice, and who should certainly be consulted on the appointment of guides and lecturers. Architects of learning and leisure would have here an excellent opportunity of spreading the knowledge and love of architecture. Some such arrangement is the more necessary since the A.A. Architectural Museum became part of the national collections at South Kensington.

Applied Art

Why are trade catalogues loaded with atrocious designs? That is what we have been trying for a long time to find out, especially since Sir Frank Baines drew attention to the subject in his address delivered at a conference convened by the Society of Arts a few weeks ago. It is with considerable astonishment we hear that our former brief notes on the subject have been misconstrued as a defence of the bad designs found in

catalogues! That is by no means a fair inference from what we said. To put the matter beyond cavil, however, we will venture on a categorical statement that we should have thought to be quite unnecessary if the question had not been raised. We had not the smallest intention of condoning bad design, and we are heartily in sympathy with Sir Frank's condemnation of it. Our object was not to apologise for it, but to throw what light we could on its origin and prevalence, and to suggest what can be done to get rid of it. In claiming at the same time that there are catalogues which contain really beautiful designs, our object was not to refute the general contention, but to do justice to certain honourable exceptions, and thereby encourage the movement towards betterment. To this perhaps rather superflous explanation, we will add our hearty congratulations to the Society of Arts on the steps it is taking to encourage excellence of design in applied art.

The "Foster Report" Repudiated

From the National Federation of Building Trades Employers of Great Britain and Ireland we have received a copy of an important resolution passed by the executive council. The resolution is as follows: "That the interim report presented by the Management and Costs Committee of the Industrial Council for the Building Industry meets with the strong disapproval of this Council. We instruct our Administrative Committee to take all necessary steps to give expression to our disagreement." At first sight it may seem strange that the Federation should content itself with a point-blank repudiation of the Foster Report; but the explanation seems to be that the resolution was necessary to prevent the assumption that the industry as a whole approved of a report that is packed with highly contentious issues, or, more particularly, that the Federation acquiesced in it. To correct this erroneous impression a short and simple declaration or disclaimer was all that was necessary.

The Late Mr. P. C. Thicknesse

Mr. Philip Coldwell Thicknesse, whose death at the age of sixty we announced last week, was one of the fairly numerous band of pupils of the late Norman Shaw, and in nearly all his work showed clear traces of that very impressive master's influence. Further notabilia of strong personal interest are that his ancestors held the same manor on the borders of Cheshire and Staffordshire for more than five hundred years; that his father, having reached the great age of ninety-one, is still canon residentiary of Peterborough; and that his partnership with Mr. W. E. Willink had endured for nearly six and thirty years. Mr. Thicknesse's name will always be associated with the vast new building for the Cunard Company at Liverpool; and to his fine imaginative architectural and decorative treatment of a score or more of great liners our pages have borne testimony.

The Assistants' Union

Last week the Architects' and Surveyors' Assistants celebrated, in a series of meetings, their first anniversary. We have great hopes for the utility of this young and vigorous union. Its immediate object is, of course, to better the position and prospects of the assistant. It cannot do that—if they do it properly—without benefitting the entire profession. For it will increase the assistant's self-respect, and the principal's respect for him, besides promoting a fraternal and co-operative spirit among units that hitherto lacked the strength and confidence, the corporate sense, the sympathy and succour, that a successful union cannot fail to create. As it gathers power and influence, the union will be able to establish and enforce the recognition of a fair rate of pay—an object that cannot be generally secured except through collective bargaining. Many eminent principals are wishing all prosperity to the union because they believe in organisation as an energising influence, and because they have full faith that the members of this particular union are not at all likely to adopt the vices of the worst models in this kind, but may be depended upon to emulate the virtues of the best—that is to say, to adopt a fair-minded and reasonable attitude towards principals, and towards the coporations that employ assistants numerously, but do not always treat them generously. One fine quality of a professional union—or even of a trade union—is its unsurpassed disciplinary value—not only by making members toe the line and play the game, but also by promoting a sense of good-fellowship and of responsibility each to each and all to all, and thus developing the civic sense, plus an improved knowledge of how men's minds work, and of the means of appeal to them, including the very useful art of public speaking, or at all events that of condensing and expressing one's ideas. The Assistants' Union should, in time, afford—of course quite incidentally—an excellent training ground for those who wish to fit themselves for the public service that all good citizens owe the community, but, for want of exercise of their native faculties, are commonly unable to render it. These are only some few of the reasons why the Assistants' Union should prove valuable to the profession as a whole, as well as to its members, whose number, we trust, will be at once greatly augmented as a result of the anniversary celebrations that have just been held.

Professor C. H. Reilly's Losses by Fire

We very greatly regret to hear that our friend and former colleague, Professor C. H. Reilly, Principal of the Liverpool University School of Architecture, has lost much valuable property in a fire that broke out where his furniture was stored pending his departure to America. The full extent of the calamity is not yet ascertained, but we trust that none of the rare and precious architectural collections, gathered with scholarly discrimination during many years of research at home and abroad, have been destroyed, and that the losses sustained are not, therefore, altogether irreparable. Architectural education in this country is greatly indebted to Professor Reilly. He has instilled into it a new spirit and given it a fresh direction on a higher plane.

Covent Garden Estate and Drury Lane

It was stated in the newspapers of March 5 that a large portion of the Covent Garden estate, including the sites of Drury Lane Theatre and the Waldorf Hotel, had been sold for more than £300,000. It was added that the remainder of the estate, including the Strand and the Aldwych Theatres, was about to change hands. As all these buildings, except Drury Lane Theatre, are quite new, it is reasonable to suppose that the changes of ownership will have no great consequence on the appearance of the district. "Old Drury," however, is old-fashioned enough to tempt the new owner to pluck it down and put some other building on the site. A theatre of such dimensions is sometimes rather difficult to fill. It holds more than 2,500 persons, the auditorium being 46 ft. wide at the stage, 52 ft. across the centre of the pit, and 48 ft. from the front of the stage to the centre of the dress-circle; while the stage is 77 ft. wide and 96 ft. deep—dimensions that do not tempt emulation. The present house, designed by Wyatt, was opened in 1812, but the interior was rebuilt in 1822. Wyatt took for his model the great theatre at Bordeaux; but the Doric portico in Catherine Street, and the colonnade in Little Russell Street, which give the exterior all the character to which it can lay claim, were not added until 1831. It would be a pity to pull it down, however, just when it is beginning to assume a respectable middle-aged air.

Architectural Causerie: Architectural Models

CRITICS of architecture, both lay and professional, frequently say that the reason why modern English buildings seldom completely satisfy educated taste is that specific problems of design are inadequately studied. Pencilled impressions and sketch perspectives for a projected building do not afford sufficient means to judge of the effect of the completed building. Hence the heart burnings and misgivings when the scaffolding is struck. The good resolutions to do better next time may dispose one to a favourable view of the contention that a scale model should be prepared of all important works before contracts are signed. Not only could clients then form a better idea of the type of building they were investing in, but the designer would be enabled to see a miniature representation of the structure as a whole set forth in the full expressiveness of three dimensions. With such a vision constantly before him, he would have opportunities, from time to time, to correct and amend his original propositions.

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Certain schools of thought affirm that a model or motif is necessary to the execution of a new design. In this the teachings of Sir Joshua Reynolds point the way; but so many sub-issues are involved that it is almost impossible to deal with such theories in a few paragraphs. It is legitimate for an architect to model a new building on one already in existence. The changed conditions of his time and the fulfilment of a definite programme, as well as the architect's predilection for detail of a particular stamp, will ensure a sufficient degree of originality. Most of the successful modern buildings in America designed by McKim are splendid justification of such a practice. We have it on good authority that when Robert Lozinga determined to build his cathedral at Hereford, he adopted the church at Aix-la-Chapelle as his model. And on the authority of Leeds it can be stated, regarding certain churches in Hesse, "that these appear to have some model in common, which was probably the Elizabeth's kirche, or conventual church at Haina." Does not this explain the similarity of type and sequence of design permeating all the Gothic buildings of England? The perfection of the Parthenon, under Phidias and Ictinus can in like manner be attributed to the models offered by the Dorian Temples of Sicily, particularly the internal arrangement of the Temple of Poseidon. It is a debatable point whether or not design reaches a higher platform when the system of transposition of an existing idea is attempted.

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What concerns us at the moment is the desirability of making scale models of all projected buildings, whether they are to be cottages, public buildings, churches, blocks of "city premises," or street façades. In mediæval times it was a common custom to carve the model of a church, to be held in the hands of an effigy representing founder, abbot, or benefactor. Such a model may be seen in the south aisle at Hereford. The effigy is supposed to represent Bishop Braes, who died in 1215. A mutilated stone figure removed from a niche in the tower of Durham Cathedral holds in its hand a Norman-period church, carved in stone, while in the spandril of an arch at Worcester are two figures examining a tablet on which is a design for a church. Sometimes models are independent of an effigy, as, for example, that carved on a boss at Norwich Cathedral.

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An architectural model is the reproduction in miniature to scale of a building or portion of a building. From the earliest periods it has been the custom of builders to indulge their fancy in models of their works. Even the ancient Egyptians had recourse to model pylons to form part of the arrangement of the capitals—for example, the temple at Edfou. Models were recognized as offering a better medium of explaining the effect of a completed building when executed, than any other form of representation, especially at a period when perspective or isometric drawing was not comprehended.

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Leeds says: "If models are in some respects far more satisfactory than working drawings, they are not so well calculated to guard against mistakes as to the appearance of a building when beheld, as it of necessity must be, in combination with surrounding objects. In a model there is nothing to serve as a scale to the eye, and inform it directly and distinctly of the relative magnitude of the intended edifice. Perspective drawings ought to accompany models in order to show what the actual appearance will be; but then it is requisite that they should be taken from the same points that the building itself will generally be viewed from, and also be made trustworthy in regard to effect and the shadows."

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At the beginning of the seventeenth century models were being more generally resorted to. There was, for example, the model in wood for Audley End made in Italy at the express desire of the Earl of Suffolk in 1610 at a cost of £500. Some fragments of this model are supposed to be still in existence. Possibly Jansen or John Thorpe had cause to thank the Earl for his wise provision of such an exemplar. In the time of James the First a model was ordered to be made for Berwick Bridge, and Archbishop Juxon in his will commanded that the Hall at Lambeth Palace should be finished "according to the model made of it."

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During the Renaissance in Italy artists went to great pains to ensure that their buildings should be examples of propriety. Sangallo obtained the papal consent to a model being prepared of his design for St. Peter's; and he instructed his pupil Labacco with the work. Rather an expensive proceeding as it turned out, for the model cost more than four thousand crowns. Fortunately it has been preserved, and can be seen to this day in the famous cathedral. In plan, the model follows a Greek cross.

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The most interesting architectural model ever produced in England is the one made by Sir Christopher Wren for his favourite design of St. Paul's Cathedral. This model is constructed of wood, with all the ornaments carved, and has been carefully preserved among other valuable patterns of Wren's fashioning. When the advisers of Queen Anne determined to build fifty churches in the metropolis, models for them were made by several architects. Some of those models are kept in Westminster Abbey. Professor Donaldson referred to these models when he read a paper at the Institute in 1843. Flitcroft, who built Woburn Abbey for one of the Dukes of Bedford, frequently prepared models of his designs. There is one of the Church of St. Giles-in-the Fields, made by this architect in 1731, now preserved in the vestry—at least, it was a few years since. Perhaps my Irish friends will enlighten me as to the whereabouts of the model prepared by Doolittle for the Bank of Ireland, showing the Ionic order for the whole façade.

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In the latter part of the eighteenth century it became the custom for the wealthy patron to have a model made of his country seat, and many a village carpenter was called upon to make a replica in miniature of my lord's temple, portico, leads, stabling, and cupola. This interesting subject must be further discussed in another Causerie.

AERO.

Modern Domestic Architecture. 2.—Fireplace and Overmantel

Designed by J. Henry Sellers

In this fireplace, executed by Mr. H. T. Tanner, of Hanwell, the small centre panel is in "vert campan," with surrounds of pavenazzo; the border round the panels being of lapis lazuli. The woodwork comprises mahogany and satin wood with ebony lines. The large panel contains a Chinese painting on silk. The walls are covered with natural colour of Japanese jute, and the floor is of teak and mahogany.

A Giant Picture Theatre

THE Capitol Theatre is the newest notable addition to New York's extensive range of theatres, and is remarkable in many respects. It commands attention first because of its great size; it is the rgest theatre in New York and probably, as its owners aim, the largest in the world. This is readily shown y its seating capacity, which is 5,230, over 600 more an the Hippodrome, seating 4,623, and until now the ost imposing theatre in New York. Perhaps more stonishing is that this immense auditorium is devoted the main to the display of motion pictures, disputing r all time the theory held by many a few years ago at the motion picture would never achieve such opularity as to rival the spoken drama.

The building is interesting from an architectural standoint because of the unusual and difficult type of conruction employed, and the manner in which so colossal interior has been decorated to achieve the intimate fect essential to a successful theatre.

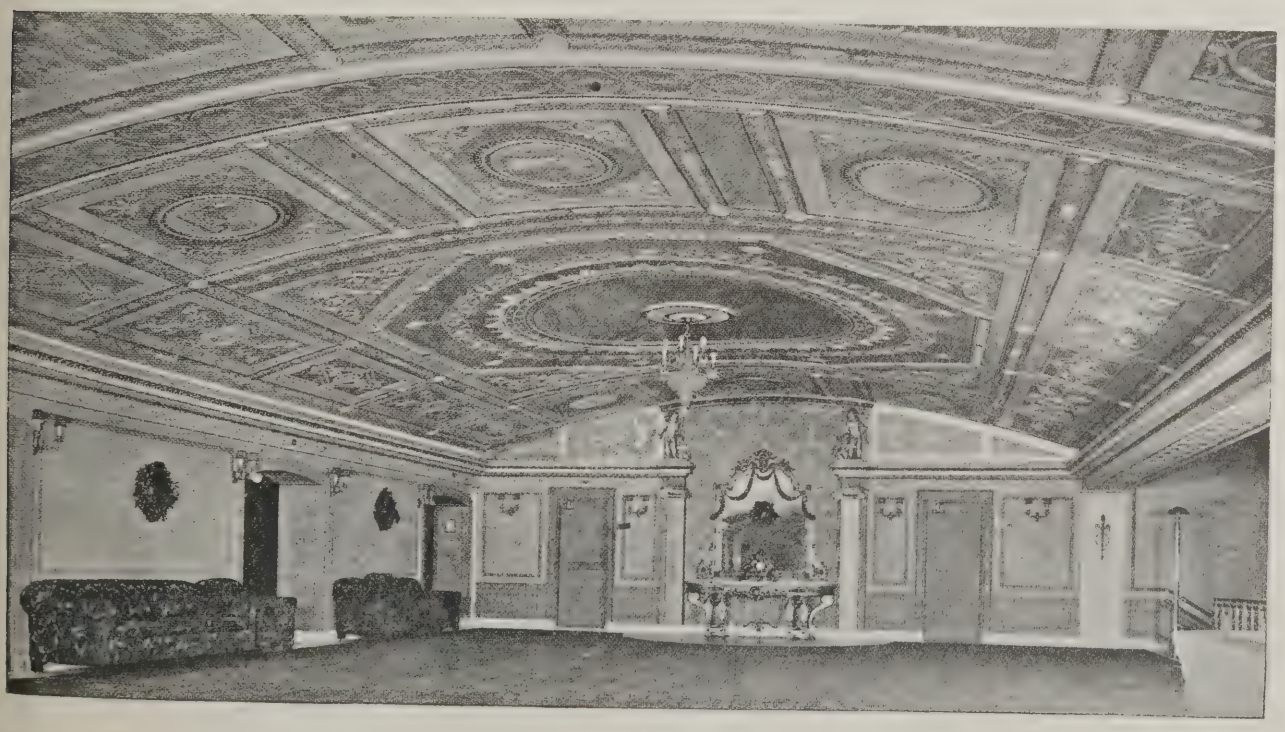
The building, writes Mr. Emil M. Mlinar, in the nuary issue of the "Architectural Forum," is situated upper Broadway. The area occupied by the building the shape of an inverted L, the Broadway frontage 100 feet 6¼ inches being one extremity, the 51st Street le with a frontage of 268 feet 11 inches the adjacent le, and the depth from 51st to 50th Streets of 200 feet inches comprising the other side, the frontage on th Street running forward toward Broadway for a stance of 137 feet. It is in this large rear portion of e plot that the theatre proper is located, with the stage the 50th Street side. The portion fronting on oadway is used for the principal entrance and monuental lobby, with the upper floors given over to offices. e exterior of the structure is treated in the usual nner, an office building masking the auditorium. e exterior opening to the lobby alone indicates the rpose of the building.

The big problem in designing the theatre was enuntered in the auditorium. This is of a scale found but very few interiors; its size may be realized in at the orchestra floor seats 2,640 people—a full capacity r the average large theatre—and that the single balcony seats 2,590 additional people. The choice of style for the decoration was most important, and in selecting that of the Empire period the dominating consideration was the desire to have dignity and to depart from the academic coldness which prevails in many periods, particularly as the design must enfold an expanse of interior, yet at the same time must counteract the depressing effect that is bound to result from a great area.

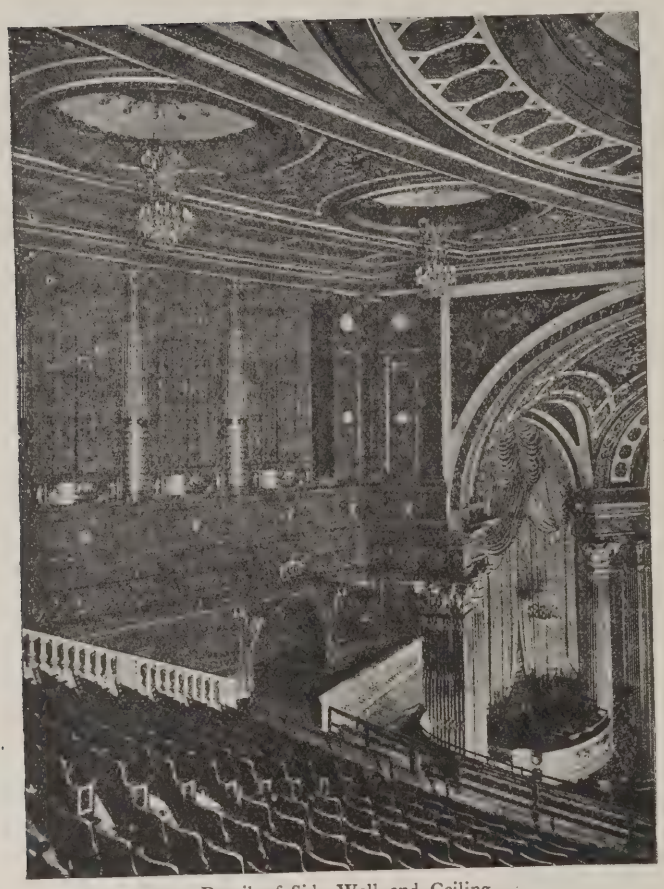
The entrance lobby, with marble walls, is treated in soft colours, almost pastels, *café au lait* shades predominating, and gold covering the stucco or plaster ornamentation. This gold is glazed with soft green to produce an Etruscan effect. Elsewhere it is a Roman gold with relief ornamentation glazed and rubbed into a cameo effect. This lobby leads to the main foyer, which spreads out luxuriantly to right and left, and gives access to a wide Italian marble staircase on the main axis. The walls of dark walnut rise to a beautiful ceiling of rich ornamentation in Roman gold with *café au lait* tints. Five great panels enclose mural paintings of unusual interest and beauty, the work of an American artist, William Cotton.

The great staircase leads to the grand promenade, a spacious elongated chamber 64 feet wide and 162 feet long. It has an arched ceiling with delicate ornamentation in ivory and gold with cameo panels in soft colours on splendidly modelled Wedgewood effects. From this promenade a view is obtained of the 51st Street entrance to the orchestra floor, through an open well encircled by a marble balustrade, above which is a large mural decoration 72 feet long. At the end of the promenade opposite the stairway are the men's smoking room and the ladies' retiring room, the former carried out in the Jacobean manner, and the latter a charming example of Louis XV. period design. Entrance to the lower part of the balcony is had through openings along the left wall of this gallery.

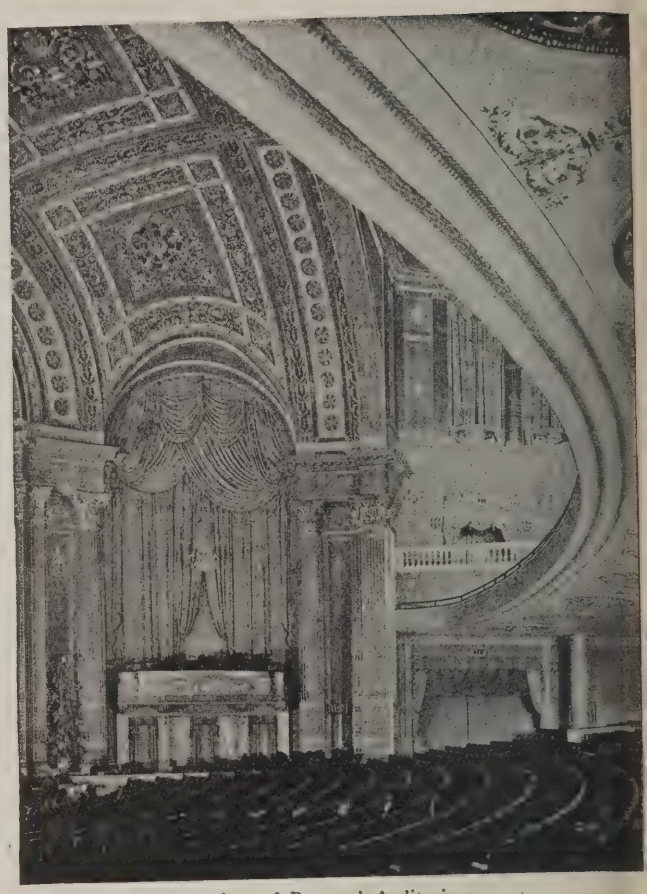
The auditorium is decorated in a colour scheme of *café au lait* with Roman gold ornamentation. The side walls are treated most successfully with a highly decora-



THE CAPITOL THEATRE, NEW YORK. END OF PROMENADE ON MEZZANINE FLOOR.
THOMAS W. LAMB, ARCHITECT.



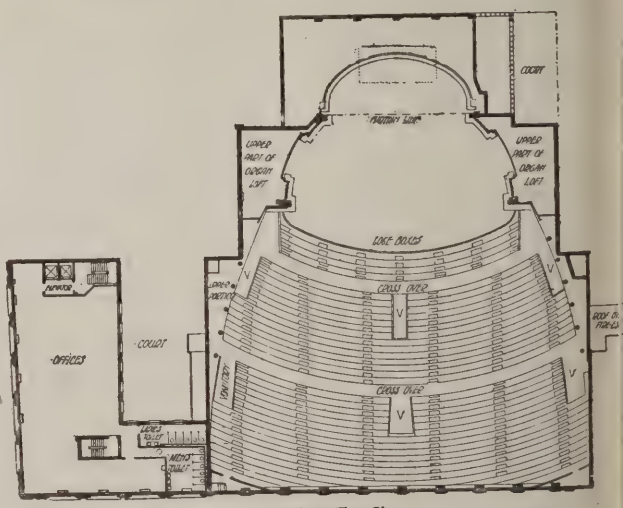
Detail of Side Wall and Ceiling.



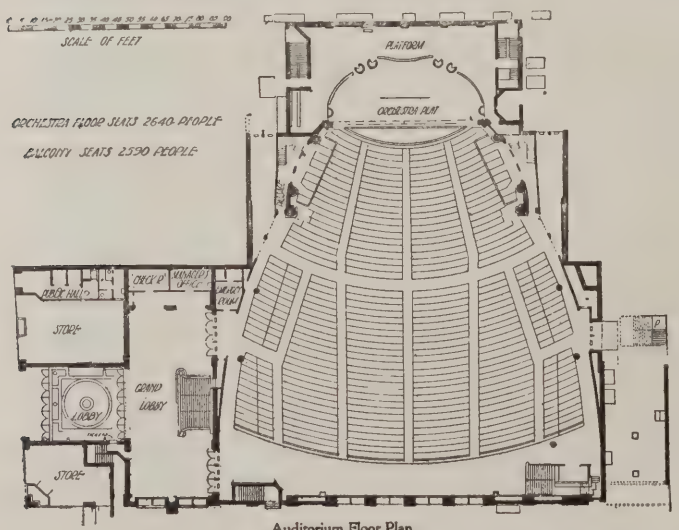
View of Box and Auditorium.

tive Ionic order contrasting with richly coloured hangings. The ceiling is composed of a large central dome, 64 feet in diameter, containing figured panels in soft colours, and surrounding it are ten smaller domes from which various lighting effects are obtained. A richly decorated sounding board is supported over the proscenium by a grand order framing the state boxes, which are reached from the orchestra floor. The hangings consist of peacock blue silk damask with putty and gold figures, most carefully draped. The carpets are of various colours—black and gold in the auditorium, and old rose, gold, and black in the promenade. The lighting fixtures throughout are of crystal of large size, to accord with the scale of the interior.

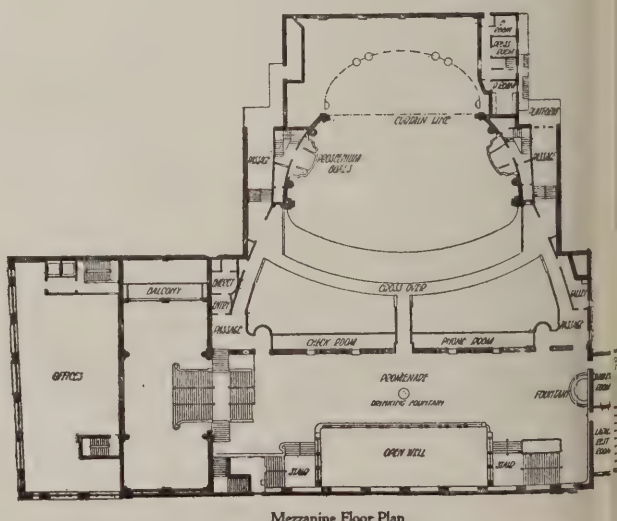
The structural steel design is of unusual type because of the great balcony. The absence of visible supports on the main floor for this large overhang is due to the use of a system of cantilevers projecting from the



Balcony Floor Plan



Auditorium Floor Plan



Mezzanine Floor Plan

THE CAPITOL THEATRE, NEW YORK. THOMAS W. LAMB, ARCHITECT.

Modern Domestic Architecture. 3.—Furnished Interiors

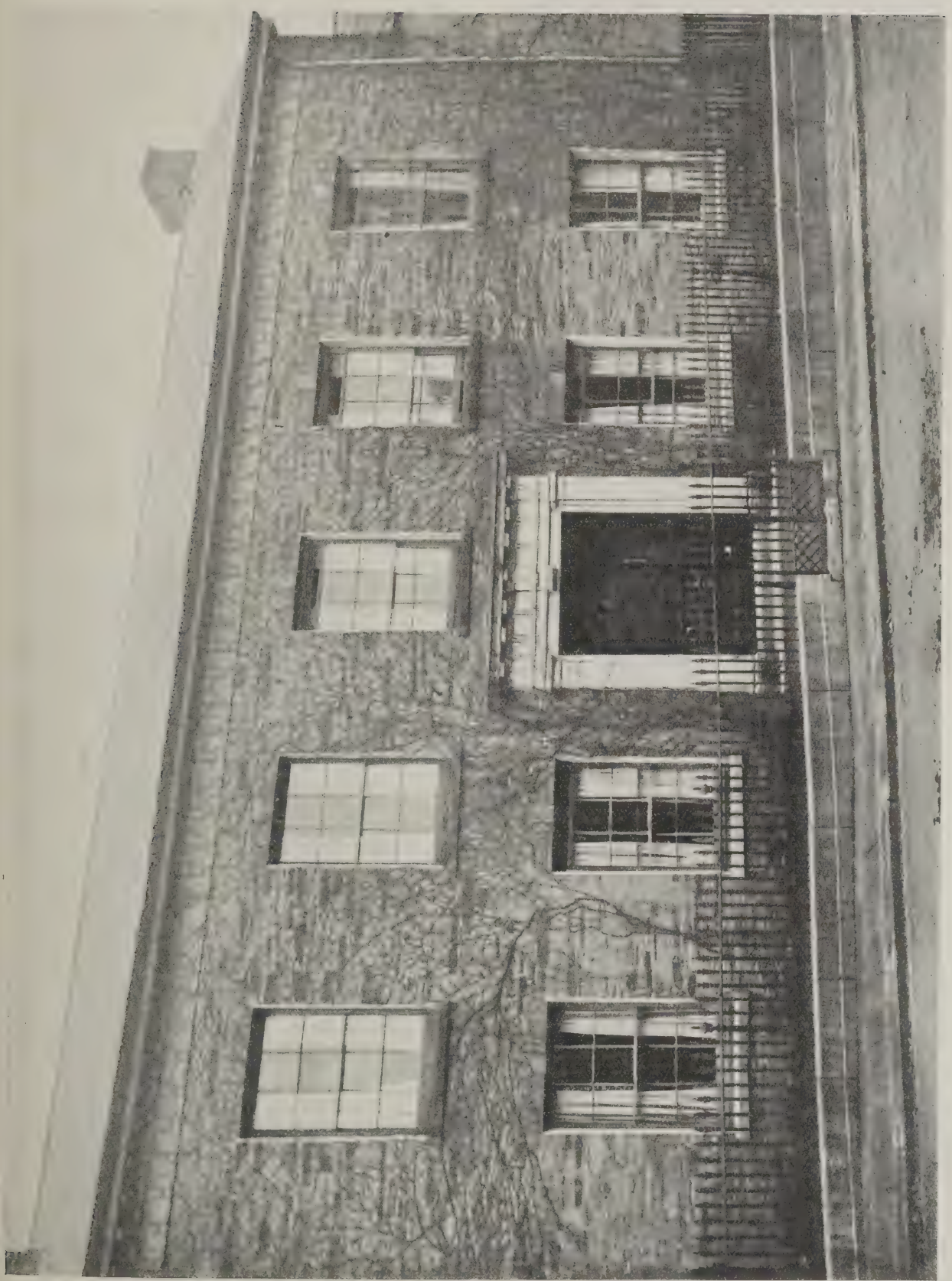
Designed by J. Henry Sellers

Drawing Room.

Bedroom.

The whole drawing-room suite is in Amboyna satinwood, with ivory and ebony inlay. The couch and chair are covered with Morris silk tapestry. The large panels of the piano are in rosewood. In the bedroom suite the main framing is in mahogany, all panels being in Amboyna with holly and ebony inlay.

Early Nineteenth-Century Architecture. 3.—House in Dean Street, Liskeard



Built in the year 1807, this house is a fine example of the small town house peculiar to Liskeard, Bodmin, Truro, and Penzance. The theme of the house is Dorian—a pleasant fancy carried through to the miniature triglyphs in the main cornice. The wide entrance allows of a recessed porch and marginal light to the entrance hall. Coursed local stone is used for the walling.

main balcony truss, in a direct line 28 feet, and diagonally 40 feet. These trusses are designed to reduce the vibration to the minimum. They have been employed in a few earlier buildings, but never before on so large a scale; this overhang extends 40 feet at the minimum —the centre line of the balcony.

The main balcony truss is 160 feet in length, 16 feet 5 inches high, and weighs more than a hundred tons. It extends from east to west on the 51st Street side of the building acting as the principal support for the series of cantilevers on which the balcony rests. It is supported at either end by a huge column 6 feet within the building, leaving an unbroken and unsupported span of nearly 160 feet. This tremendous sweep is one of the factors that contribute largely towards the atmosphere of airiness and lightness characteristic of this colossal theatre.

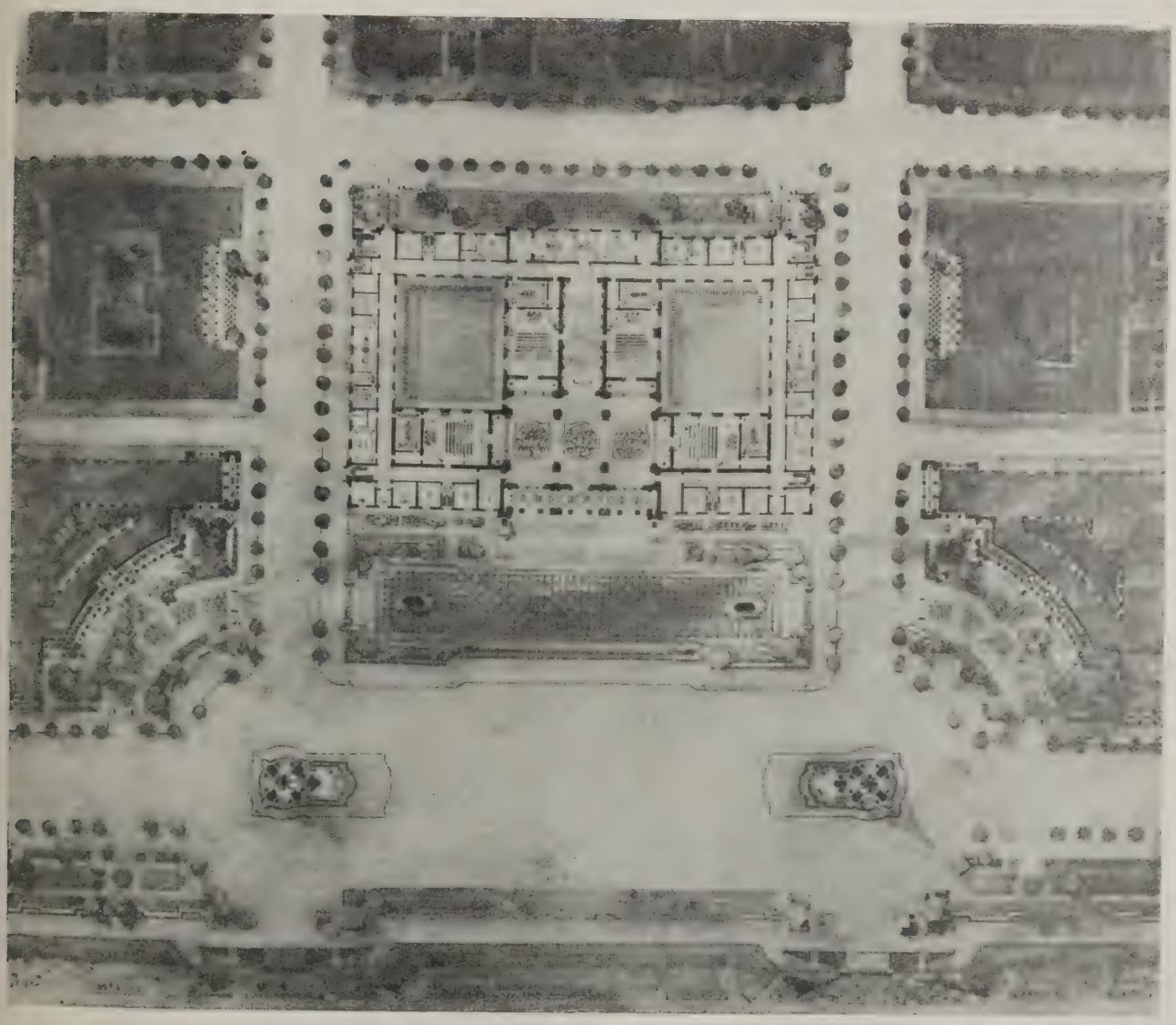
There are other trusses within the building which are worthy of notice, especially in view of war-time conditions under which they were built. A system of eleven trusses, each with a span of 120 feet, supports the roof. These are 21 feet high at one end and taper to 14 feet at the main roof truss. The latter is 30 feet 7 inches in depth and has a span of 100 feet.

Some conception of the magnitude of the structural problems that had to be met is possible by realising that 1,100 tons of steel were employed. Not the least remarkable of the structural features is to be found in the proscenium dividing the stage from the auditorium. Here again the necessity existed for a tremendous truss, and concrete was called into requisition to minimize the demand for steel. The proscenium opening itself is 61 feet wide and 50 feet high, and the truss in question spans this vast opening. A supporting pier at each side is made of reinforced concrete 3 feet thick, 6 feet wide, and towering 76 feet high. At a point 50 feet above the stage floor the truss was poured in the same dimensions, closing the proscenium opening at the top and providing a solid truss 72½ feet wide, 26 feet high, and 3 feet thick.

The organ chambers are situated over the boxes just in front of the proscenium arch on either side of the theatre, the two divisions being separated by about 100 feet. This arrangement makes possible beautiful antiphonal effects seldom heard in theatres. The thought uppermost was that the organ should bear the same relation to the theatre that exists between a large cathedral and its organ. Although more than ordinarily rich in fundamental tone, it contains many stops of a novel character, and nothing has been omitted that would be useful in providing a suitable accompaniment to moving pictures.

Rome Scholarship Competition

The plan shown below is from one of the five sets of designs which have been selected for the final competition for the Architectural Scholarship at the British School at Rome. Mr. Koerner's design carries with it the hall-mark of the Beaux-Arts, both in conception and execution. The means of access from the main entrance and the Great Hall to the Courts are excellent; the library is well placed, and separate entrances are provided for the Court officials.



ROME SCHOLARSHIP COMPETITION: PLAN OF DESIGN BY A. KOERNER, SELECTED FOR FINAL COMPETITION.

Correspondence

The A.A. and Liverpool University.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am sure you will grant me space to correct a slight error in Professor Reilly's letter in your issue for last week. Architectural teaching commenced at the A.A. when it was first founded in 1847, and the full day school course was started in 1901, and not a few years later than 1904, as suggested.

May I take this opportunity on behalf of the A.A. to congratulate the Liverpool School on its successes in connection with the British Prix de Rome.

F. R. YERBURY,
Secretary Architectural Association.

The Perfect Citizen

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—My attention has been drawn to an appreciatory notice in "Notes and Comments" in THE ARCHITECTS' JOURNAL of an address on "The Perfect Citizen," delivered last month by Mr. Halsey Ricardo before the Royal Institute of British Architects. The writer of the notice in question gave it as his opinion that the address ought to be produced in pamphlet form. May I point out that Mr. Ricardo, who is a member of the Executive Committee of the Civic Arts Association, has already written for that body a pamphlet, on the lines of his address, which will have the same title? It has for some time now been in the hands of the printer, and it is hoped that before very long it will appear in the list of the Association's publications.

LEONARD POMEROY, Secretary.
The Civic Arts Association,
20, Buckingham Street, Adelphi, W.C.2.

House at San Paulo

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of the 18th ult., there appear a plan and a photographic view of a house at San Paulo, Brazil, designed by Mr. Barry Parker, F.R.I.B.A.

On examining the internal arrangements of the house, as revealed by the plan, one is somewhat startled to observe that the maids' w.c., which is well within the outer wall, is placed between the kitchen and the larder, and that all three are beneath one hipped roof. As neither the w.c. nor the larder appears to be windowed, it is not easy to see how either is ventilated.

While it is evident that such planning would be condemned in an English dwelling, it is possible that conditions in South America are such as to justify it. Perhaps Mr. Barry Parker would consent, if approached, to place his experience of the matter before your readers.

ANOTHER F.R.I.B.A.

The Kalendar and th Year Book

To the Editors of THE ARCHITEC JOURNAL.

SIRS,—On page 242 of your issue of ruary 25 you refer to the reappearanc the R.I.B.A. Kalendar and the Soci Year Book, and you suggest that the duction of these periodicals may be for printers, but otherwise they are wa time and effort which might be obv by amalgamation.

May I say that the Society's Year has not made its reappearance, as it been published without a break for n years, including the recent war pe Moreover, it is produced at a profit to Society, and, therefore, it is not only printers who benefit.

As an advocate of amalgamation, advance the additional point that the tute would benefit by an influx of members, and if you want a further you might add "and fresh capital an creased revenue," though the strong fi cial position of the Society might be with equal effect against any such posal. In saying this I am no expre an opinion on the question one wa another, I am merely making a corre and stating a fact.

C. McARTHUR BUTLER,
Secretary of the Society of Architec

HOUGHTON HOUSE, BEDFORDSHIRE, AS ERECTED IN 1616.

Houghton House, now in a state of extreme dilapidation, was built between the years 1616-21. Local tradition assigns the architecture to Inigo Jones, but corroboratory documentary evidence is lacking. The house was bought by the Duke of Bedford in 1738, and in 1755 was renovated by Chambers. It was dismantled in 1794, some of the features, including the staircase, being removed to the Swan Hotel at Bedford.

Early Nineteenth-Century Architecture

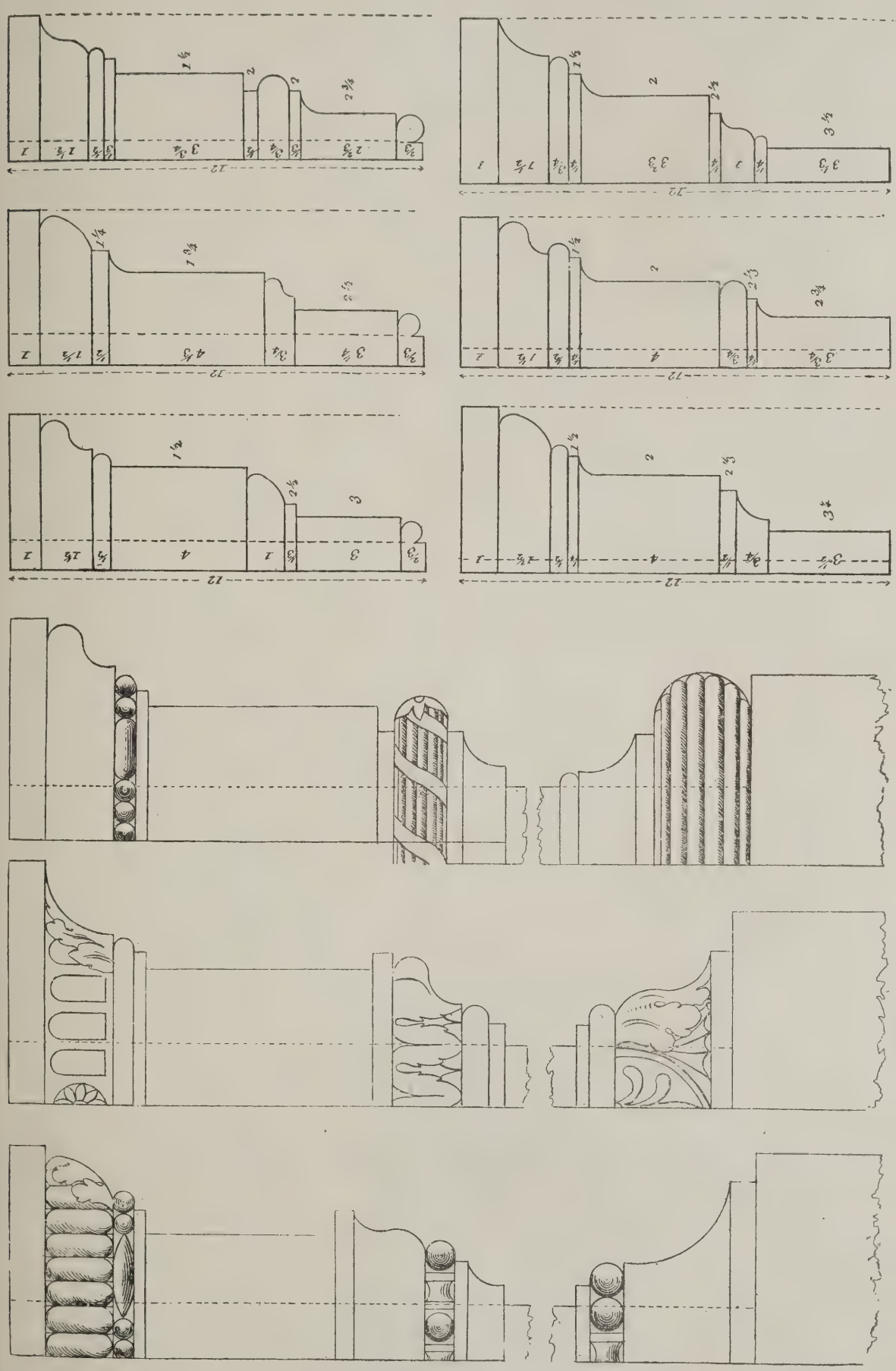
Measured and Draw

The type of building erected along the "New Road," when that great in
above drawing. Rows of these well-proportioned houses still remain, thou
built out over the front gardens to the line of the pavement. It is mo
been allowed. Our drawing shows an ex

Nos. 318-324, Euston Road, London

Musman, A.R.I.B.A.

was carried out in the early years of last century, is admirably shown in the
he ground storey is obscured by unsightly modern shop fronts, which have been
ur civic reputation that such an assault upon the amenities should ever have
r houses, having bow windows as a sub-motif.



These mouldings, from William Pain's book of designs, provide a variety of motifs appropriate for use in modern buildings. Further examples will be given from time to time. The architrave mouldings, it will be seen, are designed on the unit principle.

The Assistants' Union

The Architects' and Surveyors' Assistants' Professional Union celebrated the first anniversary of its founding at a large and well attended meeting at Caxton Hall on March 4. Lord Burnham, who has done so much for the salaried professional worker and is chairman of the London Building Trades Employment Exchange Committee, presided over an audience as representative as it was large, and was supported on the platform by Major Harry Barnes, M.P., F.R.I.B.A., F.S.I.,; Mr. Barry Parker, J.P., F.R.I.B.A., M.T.P.I.; Mr. Norman Wyld, general secretary, Society of Technical Engineers; Mr. A. G. Cross, F.S.I., hon. secretary, Quantity Surveyors' Association; Mr. A. Goddard, secretary, Surveyors' Institution; Mr. C. McArthur Butler, secretary, Society of Architects; Mr. John Sawis; and the officers and members of the London Executive of the Union.

The hon. secretary read messages of sympathy with the Union from Mr. Thomas Hardy, O.M., and Mr. W. J. Locke, late secretary of the R.I.B.A.; also a message of regret from the President of the Institute, that he was unable to attend owing to a prior engagement.

Lord Burnham, in opening the meeting, dwelt on the necessity for professional class organisation. It was right that the salary of the professional man should be increased in proportion to the increased cost of living just as much as the wage of the manual worker. He had read with pleasure the little pamphlet setting forth the objects of the Union, and he was glad to see that they were not purely selfish ends, but aimed at the greater efficiency of the assistant.

Major Barnes said he was glad to be able to be there that evening, though he was now devoting a large portion of his time to other pursuits than the practice of architecture and surveying. He wished the Union well, more especially at a time when all hoped for greater unity in the architectural profession, and he was glad to notice among the members of the executive members of the Institute and of the Society working harmoniously together. If at any time he could be of any use to the Union in the House of Commons he would be glad to be so. He understood that the time was already at hand in connection with the Unemployment Insurance Bill; he was on the committee dealing with that Bill, and he would be most glad to use his influence to remedy, if possible, any details that were objectionable to the Union and other professional organisations.

Mr. H. Ascroft, Lic.R.I.B.A., moved the following resolution: "That this representative meeting of salaried and employed architects, surveyors, quantity surveyors, and technical assistants in their professions and allied thereto, calls on all their colleagues throughout the United Kingdom to stand fast by and to support the only recognised organisation for such, the Architects' and Surveyors' Assistants' Professional Union." Mr. A. W. Sheppard, A.R.I.B.A., seconded.

Mr. Norman Wyld, as general secretary of the Society of Technical Engineers, supported the resolution. Engineers were like architects and surveyors, men who had undergone long training in the technical sciences. As such they looked at the affairs of life from a totally different standpoint from those who had not undergone such training. Neither himself personally nor his society had anything but respect for other types of workers, but they felt the manual or clerical worker did not represent them, and that therefore there was very grave danger in societies of technical workers associating on any basis founded on the principle of "one man, one vote." The votes of ten thousand manual workers were not necessarily right against the one vote of a trained expert. He felt that all professional organisations such as theirs, representative of high technical knowledge, should combine, and his society was one of a group already existing for engineering and scientific bodies. He hoped other groups, including the Union, would join with them.

This speech caused some debate, which was overruled by the chairman who declared that he understood the main purpose of the meeting was for organisation and recruiting purposes. He put the resolution and it was carried unanimously.

The honorary secretary, Mr. Chas. McLachlan, A.R.I.B.A., outlined the work of the Union during its first year. He was glad to see Mr. Sawis among them again. The meeting was one of six, others being held that night in Liverpool, Manchester, Newcastle, Norwich, and Southampton, to which last Mr. Duncan had gone on behalf of the executive. Another was being held on Monday in Sheffield. He paid a tribute to several of the branch workers, and stated that the Union owed its Glasgow branch mainly to the efforts of a young man of twenty-one who had not yet completed two years in the profession. There was to be a convention of branches later in the year.

Capt. R. G. Llewellyn Evans, M.S.A., chairman of the executive, proposed a vote of thanks to the chairman, Major Barnes, Mr. Norman Wyld, and Mr. Barry Parker.

The resolution was seconded by Mr. R. G. Strachan, P.A.S.I., treasurer, put to the meeting, and carried with acclamation. Lord Burnham, in reply, impressed on the meeting the necessity for the right kind of federation.

Mr. McArthur Butler, secretary of the Society of Architects, proposed a special vote of thanks to the secretary. This was seconded by Mr. J. B. Hector, M.S.A.

THE LATE MR. P. C. THICKNESSE, F.R.I.B.A.

The Late Mr. Phil Coldwell Thicknesse

The internment took place on Febru 27, at St. Mary's Church, Eastha Cheshire, of Mr. Philip Coldwell Thi nesse, F.R.I.B.A., whose death was ported in our last issue. The officiati clergy at the service, which was fu choral, were the Bishop of Chester, Car W. E. Torr, Rev. J. Wright Davies (Vi of Eastham), and the Rev. Cuthbert Thi nesse (Rector of Badsworth, Forks).

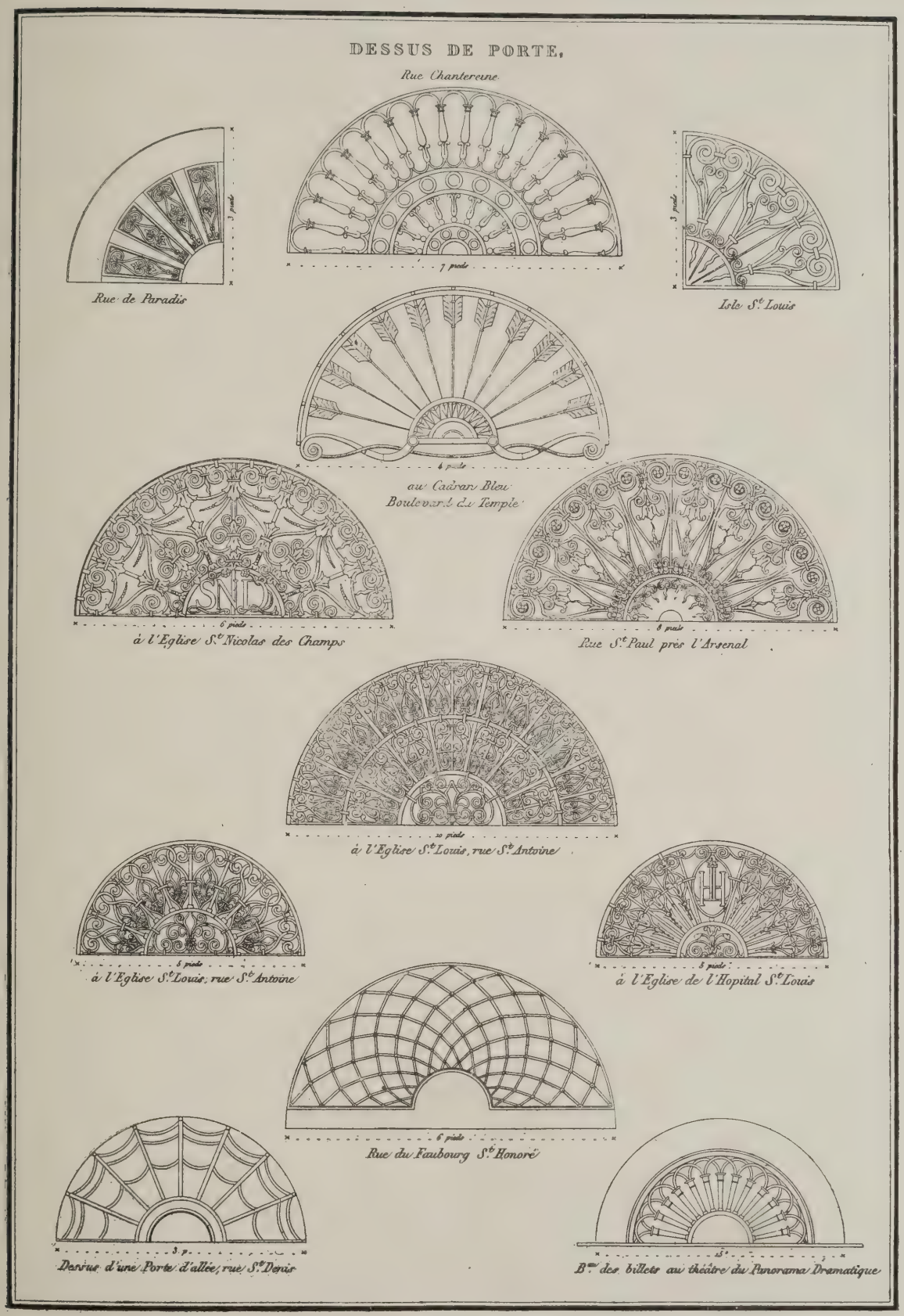
The late Mr. Thicknesse was born January 28, 1860. He was the third of Bishop Thicknesse, who is still liv at the age of ninety-one at Peterborou and of Anne, the daughter of Mr. R. Thicknesse, for some years before death M.P. for Wigan, and well known Liverpool as a supporter of Free Tra He came of a notable family, who fr father to son for over 500 years occup the same old manor near Crewe, on borders of Cheshire and Staffordsh before they moved into Lancash Educated at Marlborough College, Thicknesse took an early interest in domestic and ecclesiastical architecture the northern counties, while his study Peterborough Cathedral was in itself education. He was articled to Norman Shaw, R.A. At the conclusio these articles he came to Liverpool supervise work of an important nature Mr. Shaw, and immediately afterwa in 1884, entered into partnership with W. E. Willink, under the style of Mes Willink and Thicknesse, an associat that has only now been broken.

In the many schemes for which he responsible in different parts of the co try, Mr. Thicknesse displayed unus versatility. He was a prolific worker, possessed in a remarkable measure quality of the artist to whom the worl of greater importance than the rew In the sphere of domestic architecture designed many country and city hou and portions of many churches were result of his deep interest in ecclesiast matters. His versatility was nowhere m evident than in his work for educatio bodies—a number of elementary sch additions to great public schools such Shrewsbury and Uppingham, portions the Liverpool University—and it is diffi to say which were the most successf planned. But it was probably in adornment of big liners—he was resp sible for a couple of dozen—that Thicknesse took the keenest delight. many Cunard ships, including the "Fr conia" and the "Lucania," and in ves of the Booth Line, his love for and kr ledge of decorative architecture had scope and equally full success. T came the immense Cunard building Liverpool, which has received praise f architects of all nationalities.

There is reason to believe that if it been carried out his design for Mes Harrod's projected building at Liver would have been acknowledged in its quisite proportions to have been rem able even in the city which contains George's Hall.

Amongst his many friends Mr. Th nesse numbered contractors and worki who carried out the work he planned, his loss will be regretted by none n than by these. He married Clara M garet, the eldest daughter of John Oak the well-known Dean of Manchester.

French Metalwork. 7.—Fanlights



These examples, taken from Bury's book of designs, show very strikingly the capacity of the fanlight for decorative treatment. Innumerable examples throughout Britain have demonstrated this fact; and the French examples are the more interesting for the comparison that is possible with English specimens, the best of which are mainly of the eighteenth century.

New Books

Structural Steelwork.

It is doubtful whether British architects ave hitherto paid sufficient attention to he theory of structural steelwork. There s a tendency to leave it to the specialist. 'here is no particular reason why the pecialist should not be an architect rather han an engineer, except that the archi-ect's training is apt to trend in other irections. Mr. Ernest G. Beck's treatise s a valuable addition to the facilities for cquiring a competent knowledge of at east the rudiments of the science of tresses and strains, for it expounds the rinciples with unusual clearness and implicity. The author invites particular ttention to (1) the attempt to present ection modulus, moment of inertia, and adius of gyration in a form which, though ot less logical than that usually employed n text-books, will permit them to be isualised by any ordinary student; (2) the reatment for eccentrically loaded stan-hions; (3) the method proposed for the nalysis of framed trusses, using the line iagram of the truss as a stress diagram; nd (4) the treatment of knee-ties and knee races. There is much sound advice where choice of alternative methods offers self, and it would be difficult to name a echnical text-book that is more lucid in xposition.

"Structural Steelwork." Relating principally to he construction of steel-framed buildings. By rnest G. Beck. Wh.Ex., Assoc.M.Inst.C.E. ondon: Longmans Green & Co., 39, Paternoster ow. 21s. net.

Science and Technology.

It is cheering to see, on the title-page of practical book on chemistry, two honest English names. For this class of work here has been an undue prominence of ther nationalities, and much absolute ubbish has passed muster because of our nsular generosity towards the foreigner. Chemistry for Textile Students" is a ubject on which we cannot pretend to peak with authority; but the book before s bears all the marks of a thoroughly ractical publication, and its authors' redentials are a guarantee of scientific ccuracy and completeness. Although the hemistry of textiles cannot be said to ave any direct bearing on the interests epresented by this Journal, a glance hrough the well-arranged and abundantly lustrated pages of the book shows that nany of the principles it elucidates under-e several subjects with which an architect ould find it advantageous to be fairly well cquainted when designing textile mills or dye-house. There are, for instance, very seful chapters on the composition of the tmosphere and of water, and a reference o the fireproofing of materials. Under he former heading the theory of ventila-ion is very succinctly explained: "In ooms, public halls, theatres, mines, and actories, the air rich in carbon dioxide annot be removed by wind, and artificial ethods have to be adopted, known as entilation. Now, although carbon dioxide s heavier than air under normal condi-ions, the mixture of air and carbon ioxide is lighter, when warm, than cold ir, and in consequence tends to collect in he upper parts of the room. To ventilate room it is therefore necessary to remove he air from the upper regions, and to nject fresh air at lower levels. . . . An tmosphere containing a high percentage f carbon dioxide is very detrimental to ealth, and the Factory Acts stipulate that he air in factories must not contain twenty parts or over of carbon dioxide in 10,000 parts by volume of air." There follows much useful information on test-ing the atmosphere for the presence of this gas and for humidity. There is a brief and businesslike section on gaseous fuels, and lubricating and lighting-oils are simi-larly treated. These subjects, however, are but as it were by-products of a book of which the main theme is indicated in its title. As nothing is left unexplained, it follows that the volume—an excellent addition to the "Cambridge Technical Series"—is by way of being an excellent elementary introduction to the physical sciences.

Chemistry for Textile Students. A Manual suitable for Textile Students in the Textile and Dyeing Industries. By Barker North, A.R.C.Sc. (Lond.), F.I.C. Assisted by Norman Bland, M.Sc. (Vict.). Cambridge: At the University Press. 30s. net.

Publications Received.

Civil Engineer's Pocket Book, for the use of civil and municipal engineers, public works contractors, etc. By Lieutenant-Colonel T. E. Coleman, O.B.E., R.E.S. Third edition. Price 10s. 6d. net. E. and F. N. Spon, Ltd., 57, Haymarket, S.W.1.

Laxton's Price Book, for architects, builders, engineers, and contractors, 1920. One hundred and third edition. Price 4s. net. Kelly's Directories, Ltd., 182-4, High Holborn, W.C.1.

Detail Design in Reinforced Concrete. By Ewart S. Andrews, B.Sc., Eng. James Selwyn and Co., Ltd., 20, Essex Street, Strand.

Five-figure Logarithms and Trigonometrical Functions. By W. E. Dammett, A.M.A.I.E., and H. C. Hird, A.F.Ae.S. Price 1s. 6d. net. James Selwyn and Co., Ltd., 20, Essex Street W.C.2.

Mathematical Tables. By W. E. Dammett, A.F.Ae.S., M.I.Mar.E., A.M.I.A.E., and H. C. Hird, A.F.Ae.S. James Selwyn and Co., Ltd., 20, Essex Street, Strand, W.C.2.

Housing in Australia.

Important points that have arisen in connection with the operation of the Victorian War Service Homes Act have been the subject of a conference held recently by the Metroplitan Sectional Council of the Municipal Association of Victoria, with Mr. E. R. Bradshaw, the principal architect of the War Service Homes Commission. The matters discussed included minimum frontages, heights of ceilings, and sizes of rooms, and an effort was made to arrive at a more satisfactory understanding of policy between the commission and the Municipal Councils. Mr. Bradshaw made a strong point of the opportunity which the authorities now had in their hands of raising the standard of domestic architecture and comfort. The Commission proposed to build 5,000 houses before repeating a design, and had assured supplies for the construction of 2,000 dwellings within the next twelve months. He explained that in municipalities where merely a small number of houses was being erected the Commission would be content to conform to the by-laws of the municipality concerned, but would work on a minimum frontage of 40 ft. In a locality such as Coburn, Melbourne, where an area of seventy acres was being taken over for soldiers' homes, it would still observe an absolute minimum of 40 ft., and would establish an abundance of garden areas for the common use. He was positive that the adoption of a great town-planning scheme was imminent in Australia, and in the construction of great numbers of soldiers' homes they had an opportunity of inaugurating it. The Act should be amended to allow of the expenditure of an additional £100 on each house. This would enable them to put in an extra room and to make all the rooms larger. He advocated 10 ft. as a minimum height for ceilings. The scheme was being taken in hand on the lines of the best approved town-planning designs in other countries. Eight thousand applications for homes were already in hand, and between 100,000 and 160,000 houses would be constructed in the course of ten years. The dwellings, some of which would be two-storeyed, according to preference, would all be of brick.

Enquiries Answered

Formula for Belfast Truss.

F. M. P. (Scarborough) writes: "We should be glad to know what weight a Belfast truss of the following dimensions and construction will carry. Would you also give me the formula for working out the safe loads? 73 ft. span, four 1 by 11 nailed together as sole pieces, two 2 by 5 as curves 1¼ by 4 braces, truss 10 ft. 6 in. centre."

—The scantlings given are about the usual ones for a span of 73 ft. and rise of 7 ft., but they do not err on the side of fullness. A rough formula for sectional area in square inches of string is

$$9\left(\frac{\text{span ft.} - 20}{10}\right)$$

and the sectional area of the bow is usually made half that of the string, but should be more. The total load such a truss will carry in lbs. is about $\frac{2}{5}$ (span)^2 + $\frac{1}{6}$ span, which allows nothing for the wind.

HENRY ADAMS.

Colour Washing Plaster Walls.

C. P. G. (Framlingham) writes: "Can you tell me the best materials to use, and the proportions in which they should be mixed, for colour washing external plaster walls to produce a pale cream colour?"

—Colour washing for external use must, of course, be of such a nature as to withstand the weather. To effect this, the best material to use is Portland cement mixed with such colouring matter as may be required. In this case, pale cream yellow, a fairly strong ochre should be used, the proportion could be determined by trial. Glue is added as a binding material and this wash lasts a long time and is comparatively cheap. The Portland cement should be first mixed up with water so as to make it to about the consistency of cream, the ochre mixed in the same way separately, and the two added and thoroughly stirred, then the glue in the proportion of about one-tenth part by weight should be melted, thinned down with water and added, the mixture being again stirred. It is an advantage if this wash is passed through a strainer so as to remove lumps. It is very important to note that, because there is so much Portland cement in this wash, moisture is necessary for it to set hard, therefore in hot or dry weather the work should be wetted before the wash is applied. In weather like that which exists at present this is unnecessary. A. S. J.

Electricity for Domestic Purposes

The reluctance with which the public at large approaches the question of employing electricity for general domestic purposes results from a variety of causes. While it is probably true that our national conservatism, and the suspicion of new methods and ideas which grows out of it, to some extent contributes to this unenterprising view of electrical development, equally certain is it that want of knowledge—combined with some measure of indifference—is also a recognisable factor. But, perhaps, the most potent of all is the very definite doubt on the part of the small householder as to his ability to meet the heavier charges which he feels must result from its extended adoption. He is perfectly conscious of the convenience of electricity as an illuminant, but adheres to the belief that electrical cookery and heating are quite beyond his means and are luxuries to which only the rich can aspire.

If, however, investigation is made, it will probably appear that in favourable circumstances the cost is not so prohibitive as is generally supposed. That which is less easily computed in terms of currency is the economy effected by the reduction in labour and the elimination of dirt. The mere mention, for example, of electric heating implies the abolition of sooty grates and blackened ceilings.

Electric cookery is another innovation which possesses great advantages, one of the claims advanced by its advocates being that meat cooked in an electric oven loses less in weight than if prepared by ordinary means.

Statistics furnished by the General Electric Co., Ltd., Queen Victoria Street, London, E.C.4, throw a very instructive light on the financial aspect of the matter. These relate to an actual household occupied by four adults in the North of England and will serve as a working example. The house is entirely fitted for heating, cooking, and lighting by electricity, and has been in constant use for twelve months (no coal or gas being used during that period), the suppply being taken from a municipal undertaking. The total current used in the year from October 1, 1918, to September 30, 1919, was 9,982 units, or an average of 28.27 units per day for 353 days (twelve days being deducted for holidays).

	Units.	Average per day. Units.	Units. per person.
For Cooking	2,315	6.5	1.6
For Heating and Lighting	4,779	13.5	3.3
For Hot Water	2,888	8.1	2.0
Total.....	9,982	28.1	6.9

For domestic consumers in this particular district the maximum demand rate charged per annum for a house of this size is 70 units at 4½d. per unit and the remainder at ¾d. per unit. Therefore, the total cost for current is:

70 at 4½d.	£1 6s. 3d.
9912 at ¾d.	30 19s. 6d.
	£32 5s. 9d.

Although it will be seen from the foregoing figures that, under certain conditions, very satisfactory financial results are obtainable if electricity is used for general household purposes, much has yet to be done before its employment can be regarded by the masses as a practical proposition. This was very clearly shown to be the case by Mr. Hugo Hirst, chairman of the General Electric Co., who in a recent speech, said: "Before electrical domestic appliances can be used in millions, as we hope they will be, we must lay down factories to produce them cheaply enough to bring them within the reach of the working men living in cottages." Mr. Hirst also remarked that the unit cost of current for power must also be reduced to the neighbourhood of one-tenth of a penny if electrical appliances are to be advantageously and economically used by the multitude.

The variety of uses to which electricity may now be applied daily grow more numerous, and their peculiarity is that they are without exception labour-saving in effect. This is conspicuously the case with the electric washer and wringer, consisting of a closed receptacle large enough to accommodate six sheets at once, in which a wooden "dolly" provides the necessary movement and cleanses them thoroughly in fifteen minutes or thereabouts. The sheets are then passed through the wringer, and the tub may b recharged with other soiled clothes unti the "washing" is completed. One merel has to close the lid to set the "dolly" working, and the wringer, attached to th framework, is reversible by a touch.

Electric irons, kettles, vacuum cleaners, ventilating fans, grillers, an toasters, saucepans, water boilers, cook ing and warming plates, milk sterilisers and food warmers, shaving pots, irons towel rails, and even electric ciga lighters are among the hundred-and-on appliances recently exhibited in workin order at the All Electric House a Olympia, which was also completel equipped with electric lighting, cooking and heating installations.

ELECTRIC WASHER AND WRINGER.

Waygood-Otis Re-unio

Scenes of great enthusiasm and goo fellowship were witnessed on the 28th of la month at the London Scottish Hea quarters, Buckingham Gate, on the occ sion of the reception and re-union conce given by the directors of Messrs. Wa good-Otis, Ltd., as a visible expression welcome to those of their staff who joine His Majesty's Forces during the war. T great drill-hall was packed, and after t reception the company—among who were many ladies—settled down to the e joyment of a smoking concert consisting twenty items contributed by well-know artists.

Invitations were issued to over two hu dred ex-Service men, all of whom have r sumed their employment with t company.

Immediately following the refreshme interval, Mr. Henry Claude Walker, cha man of the board, rose most cordially welcome, on behalf of the company, tho in the firm's employment who had safe returned to the old country. The speak referred in the happiest terms to the pr sence of the ladies, and remarked that su a gathering as that which he was pri leged to preside over was unique in t annals of the company. On his propo of the toast, "Our Guests," musi honours were rendered with the utm heartiness.

In connection with the above soc event, which exemplifies in such mark fashion the cordial relations existi between the company and its employees, is of interest to mention that the sen members of the staff were entertained dinner by the directors at the Trocade Restaurant ten days previously, the ch being taken on that occasion also by M Walker, whose toast of "The Staff" w responded to by Mr. L. A. Day. Speech were in addition made by Mr. D. W. Green and Mr. C. Clarke, managi directors. Mr. C. W. C. Piggott propo the toast of "The Company," to which M H. Harmsworth and Mr. C. H. J. D directors, replied. The proceedin which included musical and other ite closed with the toast of "The Chairma the proposer being Mr. L. C. Gay.

The coming together of employers a employed is one of the most hope features of post-war development in industrial sphere. The understanding the opposite point of view which comes social intercourse between two bod whose interests, so far from bei opposed, are fundamentally identic must help considerably towards the p servation of industrial peace.

The Week's News

Southport War Memorial.

Vith regard to the winning design for ıthport War Memorial, illustrated in · last issue, we are asked to point out t the *joint* authors of the design are ssrs. Grayson and Barnish, F. and R.I.B.A. and A. L. McMillan, R.I.B.A.—not Grayson and Barnish y, as stated.

Rent Restriction Acts Committee.

'he Ministry of Health announce: The vernment have appointed a Committee · consider the operation of the Rent ;triction Acts, and to advise what steps uld be taken to extend, continue, or end these Acts." The Committee con- s of the Marquess of Salisbury, K.G. airman), His Honour Judge Sir ward Bray, Mr. E. Hallas, M.P., Sir orey Symonds, K.C.B. (Ministry of alth), and Mr. P. B. Moodie (Scottish ice). Mr. H. C. Talbot, of the Minis- of Health, has been appointed Secre- r to the Committee. Communications matters concerning the Committee uld be addressed to the Secretary, Rent ;triction Acts Committee, Ministry of alth, Whitehall, London, S.W.1.

Cassell's War Memorial.

'he Lord Mayor, Sir Edward Cooper, unveiled in La Belle Sauvage Yard, dgate Hill, a Roll of Honour erected by directors and staff of the house of ;sell in memory of their colleagues. e tablet is of bronze, engraved in simple nan lettering with an inscription and names of the men who have fallen in r country's service. The quotation cted by Kipling from Ecclesiasticus, heir name liveth for everymore," fit- ;ly terminates the Roll of Honour, lst a frame of laurel in cast bronze sym- ;ses the unfading glory which will ever hrine their deeds. The tablet is unted on a base of Hopton-Wood ıe. The memorial was designed by Mr. ney Tatchell, F.R.I.B.A., of Westmin- , and executed by Messrs. W. Bain- lge Reynolds, of Old Town, Clapham.

A Beverley Tannery.

everley, with its wonderful Minster and utiful parish church, does not suggest thing so unromantic as leather, yet ;e under the shadows of the Minster vers there was founded early in the last tury by a Mr. Hodgson a tannery ch has grown to be one of the most portant in this country. Messrs. dgson and Sons, the present owners of tannery, have always been progressive, during the last few years, under the ervision of Mr. Whiteing, of Beverley, r extensive reconstructions and addi- s have been, and still are being made, heir works. Mr. Con Greenwood, of l, is the builder, The Fawcett Construc- Co., Ltd., of Westminster, are supply- the steelwork for the various buildings. : floors to the extractor plant house and · to offices and power house are being ıed of "Mon'lithcrete."

Maternity Hospitals and Homes.

'ith regard to the Ministry of Health ıorandum on "Maternity Hospitals Homes," a notice of which appeared ur last issue, it should be pointed out no mention is made of the probable of maternity hospitals such as are vn by the model plans; but, taking into unt the fact that the allowance of space per bed is based on the requirements of two beings (mother and child), and that small wards are recommended for this class of patient, it seems likely that on a pre-war basis the cost would range between £250 and £350 per bed. This at present-day prices would represent an average of about £850 per bed. This will appear a rather alarming price to anyone who has not realised the present high cost of building, but it is hardly likely that a complete modern general hospital with proper equipment could be erected to-day for less than £800 per bed.

Manchester Society of Architects.

Major Maule, D.S.O., M.C., in the course of an address to students classified his preliminary remarks under four heads: (1) formation of character, (2) adaptability, (3) technical ability, and (4) general culture. The first two, he said, had been essential qualities in war and were no less necessary in the architectural calling. Self-imposed discipline was absolutely necessary if a student wished to raise himself above average ability—the nation was crying for competent men in every branch of life, and never were they more difficult to find than they were to-day. The students of the present generation had to make up not only for the lives of those who had fallen in the war, but also to supply the loss of technical knowledge that those who had served four or five years in the war had necessarily incurred. The object of prizes and studentships was to stimulate self-imposed work and was only a means to an end—it was better to compete and lose than never to have tried at all.

Discoveries at Colchester.

Discoveries of the Roman occupation are being made at Colchester, the one-time important Roman city of Camulodunum. At the Castle Park, where, during the very dry summer of 1906, the complete plan of a Roman villa revealed itself on the grassy surface, the foundations of several buildings, surmised to have been important or possibly official Roman houses, have been brought to light. They are not far from the site of what is believed to have been the Roman market-place. This is now occupied by the Norman castle, in the building of which much Roman material was used. A receptacle for drainage, which apparently marks the line of one of the old Roman streets, has also been found. Numerous interesting objects also brought to light include a number of coins of the period of Constantine, tesselated pavement, Roman pottery, and two complete urns buried upright on a level with the footings of the walls of the house. Another similar urn, found to contain the remains of an animal, may, it is thought, have been an offering when the house was built.

Dutch and Venetian Portraits at the National Gallery.

Room XXVI. at the National Gallery was re-opened recently to show a number of portraits and portrait groups chosen from the Gallery collections. The North walls are given to the Northern Continental Schools, and the South to the Italian Schools; and the room affords a rough opportunity of comparing at close quarters the methods and periods of some three centuries of European portraiture. Holbein's "Ambassadors" is shown between the two large "Family Groups" of Franz Hals and of Michael Sweertz (once assigned to Vermeer); the groups being separated by Van der Helst's Rembrandt-like "Young Lady" and Rembrandt's "Portrait of Himself" as a young man. On the centre of the Italian wall is the Venetian full-length portrait of Andrea Tron, hitherto ascribed to Pietro Longhi, but not in the known manner of either Pietro or his son.

Smoke Abatement.

The Ministry of Health announce: Dr. Addison, the Minister of Health, has appointed a committee to consider the present state of the law as regards the pollution of the air by smoke and other noxious vapours, and to advise what steps are desirable and practicable to diminish the evils still arising from such pollution. A Departmental Committee was appointed by Mr. Herbert Samuel in 1914 to enquire into this subject, and it had made some progress in taking evidence when the war broke out and its proceedings were discontinued. Lord Newton will be Chairman of the new Committee, and the other members are Captain Hamilton Benn, C.B., D.S.O., M.P., Professor J. B. Cohen, F.R.S., Leeds University, and Mr. H. S. Curphey, Chief Alkali Inspector Ministry of Health, Sir John Lithiby, late legal adviser to the Local Government Board, Mr. J. F. MacCabe, D.S.O., Local Government Board, Ireland, Mrs. Gilbert Samuel, O.B.E., Mr. E. D. Simon, Manchester City Council, Bailie W. B. Smith, Glasgow City Council, and Mr. F. J. Willis, C.B., Chief Assistant Secretary, Ministry of Health. Mr. E. C. H. Salmon, of the Ministry of Health, will act as secretary to the committee, and any communication should be addressed to him at the Ministry of Health, Whitehall, S.W.1.

Victoria and Albert Museum.

The Department of Paintings and the Department of Engraving, Illustration, and Design have received several important bequests and gifts which include the following during the past year. Sir Frank Short, R.A., P.R.E., 160 mezzotints, aquatints, and etchings; Lady Holroyd, two water colours and forty-three etchings, in memory of Sir Charles Holroyd, R.E., late Director of the National Gallery; the late Mrs. Merrick Head, seventeen water-colours and thirteen etchings by Samuel Palmer; the late Bernard H. Webb, the architect, all his collections; the family of the late Captain Guy Baker, twenty-seven water-colour drawings by Wyndham Lewis; Messrs. Ezra Pound and C. Lovat Fraser, a series of drawings showing different phases of the work of the late H. Gaudier-Brzeska. A selection from these gifts and bequests is on view in the East Hall of the Museum; and among other gifts there shown are water-colours and drawings by J. Baverstock Knight, H. Edridge, John Glover, Burne-Jones, C. A. Hunt, A.P.W.S., Romilly Fedden, Blamire Young, R.B.A., John Wright, A.R.E., and Lovat Fraser. Among some purchases on view is a series of four studies by Degas for his oil-painting in the Ionides collection of the ballet scene from Meyerbeer's "Roberto il Diavolo." It is hoped shortly to place on view a large number of other gifts and purchases made during 1919.

Town Development and Housing

Godalming.

A borough extension proposal is under consideration at Godalming.

Market Bosworth.

Market Bosworth R.D.C. have plans all complete for the erection of sixty-four houses in the district, and have advertised for tenders, but not a single tender has been sent in.

Liverpool.

Subject to the approval of the Ministry of Health, the Corporation have accepted an estimate from the Economic Building Corporation, Ltd., for the construction within two years of two thousand houses. It is expected to commence work in a few weeks.

Egham.

Egham U.C. have decided to purchase for £5,000 wooden houses used for a hospital at Englefield Green, and to spend another £5,000 on the conversion of the huts into twenty-six dwellings. The cost will then be approximately £400 each.

Cheap Cottages.

Mr. W. M. Scott, architect, Linlithgow, has designed two houses to the order of the Convener of the County on novel lines. The outer lining of the walls is of brick roughcast on the outside with cement. The inner lining of the walls, and all partitions, are of reinforced concrete. This admits of rapid construction. The usual plaster finish is given to the ceilings and walls. There are three rooms, scullery, bathroom, larder, coalhouse and pantry, w.c., washtub, sink, copper, range, and grates. The contract price, including drainage and water supply, is £415 per house.

Wombwell.

A special meeting of the Wombwell Council, called to consider the tenders for the erection of fifty-four houses on the King's Road site as the first instalment of the general housing scheme, decided, the cost of building being much higher than was anticipated, to call in the assistance of the Housing Commissioner, with a view to the possibility of the cost being reduced by a modification of the specifications. It is understood that the tenders averaged about £1,000 per house.

Local Housing Bonds.

The Ministry of Health have issued regulations to local authorities regarding local housing bonds, together with an explanatory memorandum in which will be found a full exposition of the terms on which these bonds may be issued. It is contemplated that issues of local bonds will be made locally in each town which, having occasion to raise money for the promotion of a housing scheme, may prefer to utilise this form of borrowing rather than to depend on the already existing methods.

Sheffield Ring of Villages.

City extension was referred to by Mr. W. S. Purchon, of Sheffield University, in the course of a lecture on the housing problem. Traffic systems in large cities today were too much of the radial kind, said Mr. Purchon, and Sheffield was a particularly good example of the disadvantage which arose from such schemes. If one wanted to pass from one Sheffield suburb to another by tramcar one had to go through the centre of the city, and the congestion which resulted was appalling. With regard to city and borough extensions there was a general feeling that certain places which were continuing to expand were already big enough, and one very good suggestion which had been put forward, and which might operate successfully in the caseof Sheffield, was not to extend the present city by added building, but to erect around it a ring of villages, connected with the city by good and rapid means of transport, but divided from the main body by agricultural or allotment land.

"Luxury" Building in Scotland.

In terms of Section 5 of the Housing (Additional Powers) Act, 1919, the construction of works and buildings of less immediate public importance than dwelling houses may be prohibited by order of the local authority under conditions to be prescribed by the Scottish Board of Health. Any person aggrieved by such an order may appeal through the Scottish Board of Healt to a Standing Appeal Tribunal, whose decision is final.

Purchase of Working-class Houses.

A model form of agreement for the purchase by local authorities, under Section 12 (3) of the Housing Act of 1919, of houses suitable for the working classes has been issued by the Ministry of Health. It is desired that this model should be used in all cases where it is applicable with any adaptations that may be necessary. The model provides for the completion of the houses by a date or dates to be specified, and provision is made for the payment of a bonus for completion before the stipulated time. It also provides for adjustment in the event of any increase of wages during the currency of the contract, and there is also a "break clause."

Barry.

Plans have been submitted to the Barry U.D.C. for buildings which will tend to the development of Barry Island as a summer resort for visitors. Plans are being submitted which will eventually cover seven and a half acres of land which has been secured. The site abuts on the main roadway leading from the railway station to the sands, along which visitors arriving by either road or rail must pass. The plans have been prepared by Mr. F. S. Swash, F.R.I.B.A., M.R.S.I. (Newport), who has visited Blackpool, Morecambe, Brighton. The buildings will embrace extensive cafés, concert-hall, promenade, dance pavilion, cinema, and various other forms of amusement, the extensive frontage being chiefly occupied by shops. The buildings will overlook Whitmore Bay and the Bristol Channel.

Regional Planning.

The Ministry of Health announce: Dr. Addison (Minister of Health) has appointed a committee to investigate the subject of regional planning in South Wales. The inquiry arises out of the distribution of houses to be erected with State-aid in the region of the coalfields, and the Committee is to have regard to (1) the health and convenience of the industrial population; (2) the physical conditions of the region; (3) the present and probable future development of the coal mines and main industries of the region; (4) the existing and necessary transit facilities; and (5) economy in the provision of water supply, sewerage, and other services. Sir W. Seager, M.P., will be the Chairman of the Committee, which will consist of Professor P. Abercrombie and Messrs. I. Edwards, W. T. Griffiths, W. Jenkins, D. M. Jenkins, Alwyn Lloyd, A. Lloyd Thomas, G. L. Pepler, and Hugh Terrell.

Trade and Craft

State-aided Housing Schemes.

A new method of contracting has b devised by Messrs. Winget, Ltd., of Grosvenor Gardens, Westminster, S.W to secure dispatch and economy in carrying out of State-aided hous schemes. The company is prepared operate through selected contractors the erection in large numbers of hou on their system, and to make arrangem for firm tenders to be submitted to l authorities. Briefly the scheme is follows: Detailed quantities are prepa and supplied to the contractor by building owner or owners. The quant are priced out at prime cost, and prime cost agreed to between the par A profit is fixed, based on the pr cost, between the building owner or ow and the contractor, irrespective of the f cost of building. Any increase in the of labour and/or material is to be paid the building owner or owners, and any crease in the cost of labour and/or m rial is to be credited to the building ow or owners. As an inducement to the tractor to effect the greatest poss economy, any saving upon the total p cost—other than through any sa effected through decrease in the of labour or material—to be divide proportions to be agreed upon betw the parties, the contractor receiving sum in addition to the fixed profit. desired by the parties, provision ca made in the contract for its terminatio the event of certain contingencies ari

As will be seen, every inducemen given to secure the erection of cottag an economical and expeditious ma and the scheme is claimed to provide a working arrangement for both the ow and the contractors.

An Informative Handbook.

Owing to the present wide variet types, sizes and voltages, the choice o correct electric lamp for a given pu is a somewhat complicated busi unless the purchaser has at hand necessary guiding data. In these cir stances the issue by the British Thor Houston Company, Ltd., of a new revised edition of their Incande Electric Lamp Handbook on Grou vacuum and half-watt type Mazda l should be welcomed by those concern the sale or purchase of electric la This handbook gives complete inf tion on all Mazda lamps, both vacuu half-watt, of 20 volts and above. T pages are occupied by scale illustra of lamps and tabulated information there is also a great deal of general mation on the related subjects of and lighting. One useful feature glossary of terms used in the inca cent lamp industry, including defin of the various classes of buyers. In of the acknowledged shortcomings candle-power unit as a measure of output, the section describing the will no doubt prove of considerable rest both to the technical and th reader. Another section of the han gives brief definitions of the more i tant terms and units employe illuminating engineering. Altogethe handbook should prove very usef a book of reference on many of the nical and commercial problems e tered in modern electric lighting pr Single copies may be obtained on a tion to the company at Mazda Hou Upper Thames Street, London, E.C

Current Prices of Materials

NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ie and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LBOUR RATES AND IATERIAL PRICES.	MEASURED WORK PRICES.
CAVATOR AND CONCRETOR	
vator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
urer, 1s. 8d. per hour.	
vy, 1s. 8d. per hour.	
erman, 1s. 9d. per ur.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
	In stiff clay, add 50 per cent.
older, 1s 9d. per hour.	In underpinning, add 120 per cent.
chman, 6s. 6d. per shift.	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
en brick or stone,	Headings, including timbering, add 400 per cent.
n., 7s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
nes ballast, 17s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Gravel, 17s. 6d. per yd.	Planking, 5½d. per ft. sup.
sand, 18s. 9d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
ned sand, 20s. per yd.	
ened ballast or gravel,	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
d 10 per cent. per yd.	
ker, breeze, etc., prices	Do. 6 in. thick, 2s. 9d. per yd. sup.
cording to locality.	Puddling, 30s. per yd. cube.
and cement, 79s. per	Cement concrete, 4.2.1, 53s. per yd. cube.
	Do. 6.2.1, 49s. 9d. per yd. cube.
in small lots, ex	Do. in upper floors, add 12½ per cent.
ndon stock, 100s. per	Do. in ferro concrete work, add 20 per cent.
	Do. in underpinning, add 50 per cent.
lime, 64s. per ton.	Lias lime concrete 41s. 3d. per yd. cube.
s charged extra at	Breeze concrete, 26s. per yd. cube.
6d. each and credited	Do. in lintols, etc., 4s. 9d. per ft. cube.
en returned at 2s.	
sport hire per day:	
t and horse, 26s.	
on motor lorry, £6 10s.	
am lorry, 5-ton, £7.	
iler, 30s.	
am roller, £4 10s.	
ter cart, 30s.	
INER.	
urer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
erman, 1s. 9d. per r.	
layer, 1s. 11½d. per r.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in. 15s., 9-in. 26s. per ft.
ber, 2s. per hour.	Note.—These prices include digging and filling for normal depths, and are avera prices.
hman, 6s. 6d. per shift.	
ware pipes, tested	
lity, 4-in. 3s., 6-in.	
9d., 9-in. 7s. 11d. per	
iron pipes, coated,	
lengths, 4-in. 4s.,	
5s. 9d., 9-in. 8s. 6d.	
yd.	
and cement and sand,	
Excavator above.	
for caulking, 63s.	
cwt.	
t, 1s. 9d. per lb.	
KLAYER.	
layers, 1s. 11½d. per r.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
rer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
lder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
n stocks, 84s. 6d. per	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
ons, 75s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
rdshire blue, 220s. M.	Do. picked stocks, 6d. per ft. sup. extra.
icks, 2½ in., 223s. per	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
l, salt, white, and	Struck pointing, 4d. per ft. sup. extra.
y stretchers, £25 M.	Tuck pointing, 10½d. per ft. sup. extra.
headers, £24 10s. M.	Weather pointing, 4d. per ft. sup. extra.
	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
s, extra, 130s. per M.	Do. 1½-in., 5s. 10d. per yd. sup.
ds, less, £1 per M.	Do. 2-in., 7s. 6d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
rt and sand, see Ex-	Asphalte damp course, ½-in., 1s. 2d. per ft. sup.
tor above.	Do. vertical, 1s. 6d. per ft. sup.
grey stone, 62s. per	Slate damp course, 1s. 10d. per ft. sup.
lime mortar 26s. yd.	Asphalte paving in two thicknesses, ¾-in., 10s. 9d. per yd.
	Do. skirting, 6-in., 1s. 5d. per yd.
course, in rolls of	
n. 4s., 9 in. 7s. 3d.,	
in. 10s. 9d., 18 in.	
per roll.	
N (INCLUDING SLATE).	
. 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
xer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
rer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
lder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
nd stone:	Sunk face, 3s. 1d. per ft. sup.
bed, 4s. 5d. per ft.	Do. circular, 3s. 8d. per ft. sup.
be.	Joints, arch, 2s. per ft. sup.
bed, 4s. 8d. per ft.	Do. sunk, 2s. per ft. sup.
be.	Do. do. circular, 2s. 8d. per ft. sup.
stone, 3s. 1d. per ft.	Circular-circular work, 10s. 3d. per ft. sup.
be.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
eld red, 7s. 6d.	Do. circular, 10½d. per ft. run
trade extras for	Half sawing, 9d. per ft. sup.
blocks,)	Add to the foregoing prices if in York stone 35 per cent.
paving, av. 2½ in.	
d. per ft. sup.	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal:
Tiler, 1s. 11½d. per hour.	Ladies 78s., Countess 86s., Duchess 95s. per square.
Scaffolder, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 145s. per square.
Labourer, 1s. 8d. per hour.	Delabole do. 90s. per square.
N.B.—Tiling is often "Piecework."	Add, if vertical, 5s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 11d. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 87s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 80s. per square.
Nails, compo, 56s. 6d. per cwt.	Fixing lead soakers, 9½d. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton, Peggies 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 14s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel: 1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or 1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Centering for concrete, etc., including horsing and striking, 93s. per sq.
	Slate battening, 29s. per sq.
	1-in. deal gutter board on firring, 108s. per sq.
	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Do. F.E., 3rd and U/S. £58.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Battens, 3rd and U/S. £51.	Do. do. do. 1½-in., 3s. 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	If in oak multiply 6 times.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	If in mahogany multiply 6 times.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Mahogany, 4s. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d., 1¼-in. 16s. per yd. sup., average.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	Staircase work, deal: 1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup. 2-in. deal strings, fixed, 4s. 6d. per ft. sup.
Teak, 4s. 6d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 87s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends and tacks, ½-in., 2s. 6d. per ft.
	Do. ¾-in., 3s. 2d. per ft.
Lead, milled sheet, 66s. per cwt.	Do. 1-in., 3s. 8d. per ft.
Do. Drawn pipes, 66s. 6d. per cwt.	Do. 1¼-in., 4s. 3d. per ft.
Do. soil pipe, 71s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. 3d. per ft.
Do. scrap, 33s. per cwt.	Do. 3-in., 12s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 17s. per ft.
Solder, plumbers, 1s. 9d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Do. fine, 2s. 6d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. 5d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
	Do. O.G., 4-in., 2s. 1d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Do. 3-in., 4s. 6d. per ft.
	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each. Baths only, with all joints, 37s. 6d. each. Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 37s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ⅜-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 8d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 65s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. fine, 66s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
Plaster, 74s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 75s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 120s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
Do. boiled, 12s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 19s. per gal.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
Petrifying liquid, 3s. 6d. per gall.	Do. fine, 3s. and upwards per piece.
Double size, 7s. per firkin.	Varnishing paper, 1 coat, 14s. per piece.
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Hard stopping, 7½d. per lb.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Varnish, hard oak, 18s. 6d. per gall.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per
Erector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including bui in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per
Cast-iron, heavy	Fixing only corrugated sheeting, including wa and driving screws, 1s. 5d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £47 per ton.	
Do. Galvd., £57 per ton.	
Corrugated sheets, black*	
Do. Galvd., £55 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 2s. 10d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 4s. 7d yd. sup.
Do. corrugated, 6s. 3d. per yd. sup.	Do. do. corrugated, 8s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Hanging only metal casements in, but not incl wood frames, 5s. 6d. each.
Do. in metal frames, 3s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £23 10s. red £25 10s.	Asbestos slating or tiling on, but not incl battens or boards, plain "diamond" per sq grey 66s., red 67s. 3d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the of cement used (about 3s. to 4s. per bush cement).
Wrought iron R.W. goods:	
R.W. gutter, 4 in., per yd. 1s. 10d.	Gutter-fixed, 1s. 4½d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	R.W.P. fixed, 1s. 9d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.

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Coming Events

THURSDAY, MARCH 11.

Society of Architects.—Ordinary meeting, at 28, Bedford Square, W.C.1, at 8 p.m.. "Thoughts on Economics in Relation to the Present Crisis," by Sir Ambrose Poynter, Bart., F.R.I.B.A. (Member). The discussion will be opened by the Senior Vice-President, Sir Charles Ruthen, O.B.E., F.R.I.B.A.

FRIDAY, MARCH 19.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "Some Notes on the Practical Application of Reinforced Concrete," by Dr. Oscar Faber, O.B.E., D.Sc. 6 p.m.

FRIDAY, MARCH 19.

Architectural Association Dinner at 34 and 35, Bedford Square, at 7.45 for 8 p.m., at which the Right Hon. H. A. L. Fisher, President of the Board of Education, will be the chief guest. The President of the Royal Academy and R.I.B.A. will also be present. Tickets, price 15s. each (including wine), may be obtained from the Secretary. Early application is requested.

WEDNESDAY, MARCH 24.

Royal Society of Arts. — "Industrial Lighting in its Relation to Efficiency." By Mr. L. Gaster. 4.30 p.m.

WEDNESDAY, MARCH 24.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"The Effect of Modern Industrial Methods on Employment and Wages," by Mr. F. C. Lawrence. 7.30 p.m.

THURSDAY, MARCH 25.

The Concrete Institute, Denison House, Westminster, S.W.1.—"Steelwork in the New London County Hall" (lantern), by Mr. E. Lawrence Hall.

Our Small Advertisements

A number of interesting announcements will be found on pages xxvi and xxvii.

An architect is required for the Welwyn Garden Suburb; a lecturer in architecture for the University of Sheffield; an accountant and quantity surveyor and an architectural draughtsman by the Southampton County Education Committee; a quantity surveyor's assistant for specification writing; a builder's accountant for Newcastle-upon-Tyne; and a clerk of works by the City of Bradford.

Vacancies for architectural assist are announced at Newcastle-upon-T Stoke-on-Trent, Bradford, London, C teris, etc.

Competitive designs are invited by City of Sheffield for a proposed war me rial hall.

On April 13 the new session mences of the painting and decora course at the Junior Day School at L.C.C. School of Building.

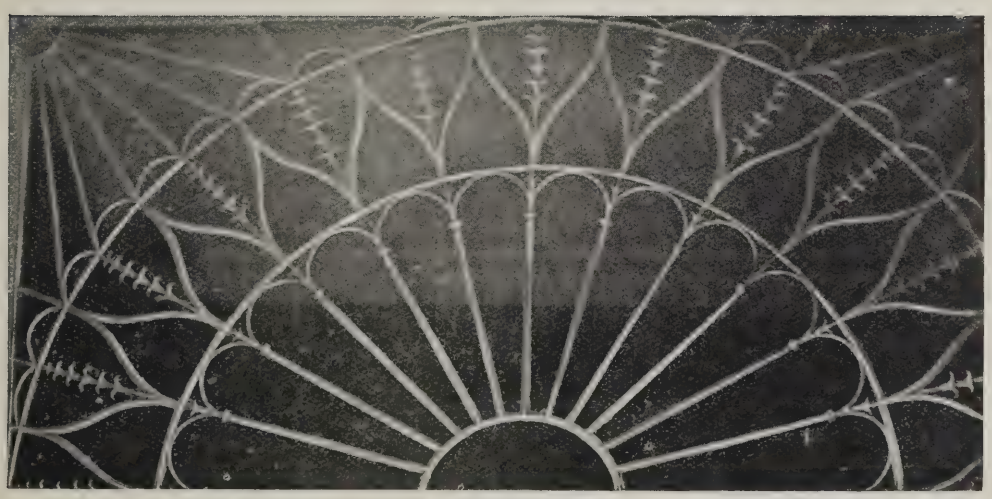
The proprietors wish to dispose of patents of "Nealit"—a new decor building material.

A disposal sale is to be held at Pa hall P.O.W. Camp, Eastcote, North on March 23, 24, and 25. Over 100 comprising practically the whole of camp, together with a large quantit building materials and R.E. stores available for disposal, and the sale sh therefore afford to likely buyers, ar cellent opportunity of purcha materials, etc., which are urg wanted at the present time, at reaso prices. The auctioneers are Messrs. and Bowerman, 4, Horse Fair, Ban Oxon., and 17, Hart Street, Lo W.C.1, from whom all particulars ma obtained.

Wednesday, March 17, 1920 Volume LI. No. 1315

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



WROUGHT-IRON FANLIGHT FROM EXETER.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 5.—The Post Office, Queen Street, Exeter

R. Hayward, Architect

Exeter's Neo-Classic buildings include the Post Office in Queen Street, which, however, is no longer exclusively devoted to the service of the State—witness the tradesman's ugly advertisement signs which now disfigure the façade. Note the rusticated treatment of the ground-floor storey, also the use of isolated columns with entablatures breaking forward.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, March 17, 1920 Volume LI. No. 1315

Architects and the People's Health

"WE are enormously handicapped as a nation by poor health, which has arisen, the report clearly shows, from bad housing conditions." Thus Dr. Addison, in an interview with a representative f a London daily newspaper, sums up the ital lesson of the startling report of the Select Committee which inquired into the work of the Army Medical Boards. The evil effects of bad housing n the physique of the nation are also emphasised by nat eminent authority, Professor Keith, F.R.S., M.D., ho does not go so far as Dr. Addison, but points out nat the large percentage of people who are physically nfit is due to the lack of training and "the leading of nnatural lives, through bad feeding, bad housing, a azy, drifting way of living, standing at street corners nstead of taking an intelligent interest in life." The eport shows that of 2,500,000 men of military age xamined between October 31, 1917, and November 1, 918, only one in three was physically fit. And this atio, we are assured by the Committee, is "fairly pplicable to the bulk of the nation." Dr. Addison's omment is upheld by the further revelation that London ad the worst of all the region records. It is, of course, commonplace that bad housing means bad health. 3 houses cannot produce an A1 people. Yet to safeuard our Empire an A1 people is imperative.

And for an A1 people we must have A1 houses. It a point that needs no pressing. Happily, there is one. For the first time for many years at least, the chitect has been called in to advise and assist our tate and municipal housing schemes. No longer are e dwellings of the people to be left to the caprices the speculative builder. No longer are they to be bject only to the demands of big profits with quick turns. The architect, who is concerned not only with e design, but also with the soundness and sweetness the building, will see to it that the people are procted. His expert knowledge and the invaluable aid e has had from the doctors enable him to watch all e points that make for health. We have had enough death traps masquerading as "picturesque" homes. or them no architect has been to blame. Few cottages the past have been designed by qualified men. Like opsy, they have "just growed."

Go into any of our large cities and ask the medical ficer to take you round the meaner streets. He will e able to show you one house and say, with full nowledge of the ghastly facts, "This is a feverouse." Another will be a "cancer house." Yet another will denounce as a "consumption house." And the cords will prove him right. Let us have no more of em. Give us only "health houses." That is what e architects could do for the nation. That is what we pe they will be allowed to do. That is why we trust dwelling will ever be permitted to be put up again nless a fully-qualified man has at least passed the ans. And for that reason we feel that the right to Registration should be once again demanded—not for selfish professional reasons, but in the highest interests of the State. If the question is approached anew from this standpoint the profession will be serving a noble and imperial purpose. Not for the profit of the profession, but for the protection of the people Registration must come.

Passing beyond the narrow bounds of professional advantage, this reform would strike at the root of a great and admitted evil. As things are to-day anyone may claim to be an architect, and the law does not say him nay. There was an extreme case some time ago of a gentleman who combined the twin arts of chimney sweeping and architecture. It is not surprising to find, perhaps, that he ranked the sweeping of chimneys first. We have heard of "store-fitting architects," but freely admit we do not understand the title. We have also known of cases of sanitary inspectors who condescended to architecture as a side line. Now, a man may not call himself a dental surgeon if he has not earned the right by passing through the accepted schools and earning the proper degree. It is the same in the professions of medicine, surgery and the law. The privilege is not so much for professional protection as for the protection of the public. That at least is the theory of it, whatever the cynics may say. In the same way architects should be registered, and for the same reason. No man should be allowed to adopt the profession unless he has earned his title to it.

We do not, of course, expect that Parliament will agree to permit only a fully-qualified man to design a building. That would be too much to expect. But we feel that no building should be sanctioned until an architect had approved it. If that were the case no plans would be passed that would threaten the health of the people. Perhaps that is to claim too much, but in a wide sense it would be true. We should like, too, to see the time when the sites of buildings, as well as their plans, become subject to expert approval. That by the way, as at present it is ideal, and has no chance of acceptance. The immediate point is that to cure the evil of the C3 house the architect must be called into consultation. Bad housing and bad health are evil and inseparable companions. It should be the generally recognised duty of the architects to oust the one and so cripple the other. That opportunity is theirs to-day. If they make the highest use of it Registration will be theirs to-morrow. Meanwhile, they must not spoil their prospects by a division of forces. No Parliament will pay heed to divided counsels. Unless the profession is united it cannot lay its appeal before the nation with any chance of success. This is, we know, axiomatic. But the trouble in these complex days is that the obvious is so rarely obvious. That is why we lay stress on the need of union. It is the first step and the vital step to Registration. And the vital point about Registration is that it protects the public even more than it benefits the profession.

CROSSLEY DAVIES.

Notes and Comments

Unification and Registration

MONDAY, March 22, should be an important date in the annals of architectural organisation. The Council of the R.I.B.A. will then seek the sanction of the general body of members to a proposal to prepare and present a comprehensive scheme for unity and registration. This meeting will come not a moment too soon; for although at the present time architects are busy as they never were before, the pressure is likely to be maintained, and even increased, for several years to come, so that the prospects of finding greater leisure for debating these high and deep problems are exceedingly dim. It cannot be said, therefore, that the time is inopportune. If that view were to prevail—if the profession were to decide that it is too busy to attend to such matters just now, and must await greater leisure, then the reforms for which there has been a well-nigh unanimous demand might be postponed indefinitely. No more propitious moment than the present is likely to occur in the near future; and it may hereafter be impossible to revive the favourable conditions now prevailing. The spirit of unity is never likely to be so strong among us as the Great War has made it, and the opportunities for reconstruction will dwindle with the lapse of time. We trust, therefore, that a committee that is thoroughly representative of the entire profession will be at once formed, and that in a very short time it will present a unanimous report not only recommending unity and amalgamation but indicating in detail the ways and means of attaining thereto. We are much gratified to find the suggested constitution of the mixed committee has been so liberally conceived as to include all architectural interests. Even the architects not belonging to any professional organisation are to be included. That representatives of the Architects' and Surveyors' Professional Union are expressly nominated is mere justice to a young and vigorous body whose activities are everywhere winning recognition and respect.

Professional Education

Now that the Institute seems disposed to act on the discovery that a large problem should be tackled in a large way, there is good hope that it will apply to professional education the same spirit in which it is approaching the twin subjects of unity and registration. For years past we have taken the keenest possible interest in architectural education—which, in a manner, and in many of its larger phases, we exist to promote—and we are glad to find that our persistency has not been in vain. It was, we are credibly informed, largely in consequence of the attention given to the subject in our pages that the education debate of February 16 was arranged; and the feeling that we were in some measure—however indirectly—responsible for its being held, added poignancy to our regret at the inadequate treatment of the subject on that occasion. No doubt the debate was premature. It should not have forestalled deliberations at least as thorough as those that have preceded the forthcoming unity debate, and similar definite proposals should have been made. Definite proposals certainly were made, but they did not come from the Institute, but from Liverpool, and we want to hear that the Institute contemplates the formation of a mixed committee on education similar to that which is proposed in the interests of unity. Surely it is seen to how great an extent unity depends on a broad-based system of education affording equal opportunities all round, and reaching to the highest level to which professional education can attain. If the Institute has some such comprehensive scheme in hand, why not declare it? Whether this is being independently developed, or whether it is to be an item in the new charter, it will in either case give powerful leverage the registration movement. "One thing at a time" a recommendation that should not keep asunder thin that could be more profitably joined together.

The Nurse Cavell Monument

The hoarding round the Nurse Cavell monument, the junction between Charing Cross Road and S Martin's Lane, having been removed, it is possible form an opinion of the work as a whole, thou not of the statue, which is as yet unveiled. it follows faithfully the model exhibited in last yea Academy, it is beyond criticism—it is noble and beau ful. To the monument as a whole we are sorry not be able to accord the same degree of praise. Besid being heavy and dull in design, it is too tall, and, fr one aspect, seems in competition with the Coliseu thus dissipating the reverence that it should concentra and conserve. The upper part we like even less than t lower. It is too abruptly attenuated from the girth its support, and its details are poorly composed. this is a specimen of sculptor's architecture, it will be standing argument for co-operation between archit and sculptor.

A Home for London University

Still rumour is rife about a site for the Lond University building that must go up very so Bloomsbury is now the favoured spot—the new Univ sity buildings are to occupy a large site behind British Museum. This, it must be confessed, would an ideal situation, the "congenial gloom of Bloo bury" being tempered by classic form in some of buildings. Hereabouts are some fine old hous decorously dull, perhaps, but undeniably dignifie which could be converted into hostels. Nor should th be any room for raising any question as to whet London University should be an annexe to the Brit Museum, or vice versa. London University should provided with a building fine enough to dominate district so completely as to make posterity imagine t the Museum is only its warehousing department. the way, the Museum would be much more valuable architects if its classical antiquities were thoroug examined with a view to more logical classification, a if possible, to the filling up of rather serious gaps. fill these it should be easy to obtain casts of objects t are known to exist in other museums.

Post-Office Design

Although we are threatened with a further increas the postal rates—inland letters, it has been hinted, to bear a two-penny stamp—it cannot be supposed t even that imposition would neutralise the demand greatly extended post-office accommodation. There not enough post-office buildings, and many of th that we have are too small for the services required them. Until housing is much further forward tha is likely to get for many months to come it is not prob that there will be much post-office extension. interval might be profitably occupied in evolv freshly conceived designs. On the whole, the Offic Works has done exceedingly well in post-office des and one may suspect that it could do considerably be if the Treasury were more generous. Post-office bu ings are so pervasive and are necessarily so spicuous, that they must needs be potent exemplar architecture. For the most part they are dignified well proportioned, following, in that respect at le the traditions established by Smirke and the Early torian builders, who saw clearly enough how w spread an influence these buildings must exert, and determined that it should be good. Usually it is; in the new era now dawning it should be better.

The Moderate-Sized House

Amidst all the hubbub about housing, the demand ›r a house of moderate size, for which the owner does ›t expect a State subsidy, is insufficiently heard. But ıen it is a request, not a complaint. Lawyers, bankers, ockbrokers, and other professional and commercial en are demanding a house—for which they are preıred to pay about £2,000—that shall contain five bedıoms, two bathrooms, a drawing-room, 24 ft. by 18 ft., dining-room, 18 ft. by 15 ft., two receiving-rooms, a ›od wide staircase, and a fairly spacious hall. Can iis be done for the money? And what would be a reunerative rent for such a house? These are points on hich information from architects and builders who are timating on such work would be of considerable use.

New Uses for Old Mansions

With the dissolution of great estates comes the dread ıat the mansions on them may disappear. Even when e grandee does not sell his estate, he may be tempted forsake a mansion that he can no longer afford to ep up. Let him, however, keep it up in the material nse. Even if, in consequence of the scarcity of rvants and the continuous rise in prices, he is conrained to take a smaller house, he need not think of ılling down the historic home of his ancestors. There e many uses that it might fulfil. It could be converted to a country hostel or place of recuperation for tired ›rkers; or, like the house of the Empress Eugènie Chislehurst, it might be let as a golf-club house. here are many other uses to which the fine old mansions ›uld be adapted, and we trust that owners who conmplate leaving them will be at special pains to preserve em. Otherwise our country may lose many an ancient wel of old-time architecture.

Hoop-Iron House Frames

Among the many inventions of which the necessity r houses has been the "mother," none is more striking an that of the "hoop house." Mr. J. T. Simpson, ıief engineer of the Weardale Coal Company's works Thornley, has devised the method. It comprises a ımber of hoop-iron squares, each with 2 ft. 10 in. ıuares, which, bolted together, form the framework of concrete house. It is claimed that on this system a x-room house can be completed ready for occupation ithin ten days, and the cost is said to be approxiately £650. If this system, which, we understand, ıs been approved by the Ministry of Health, proves ccessful in the provision of sound habitable dwellings, adaptation to other buildings will certainly be tempted. Possibly, therefore, the hoop-iron house. mple as the system seems, may be the forerunner of ıportant developments in building construction. In e meantime, the system should be carefully investiıted by local authorities which, like Hull City ouncil, find that small houses built on the old system ould cost £1,200 each. On the other hand, the Manıester building operatives who have banded themselves gether in the optimistic hope of building an eight-room ›use for £600 will do well to go over their estimates gain with scrupulous care, to make sure that some vital em of expense has not been accidentally omitted from eir calculations.

Parliament and Labour Problems

Labour matters in which builders are more or less rectly interested are engaging much attention in Parıment just now. First there is the Unemployment ısurance Bill introduced by Sir Robert Horne, Minister Labour. That employers and workmen are to conibute threepence per week per man may entail no great ardship; but really the burden of responsibility for the ›llection of the money ought not to be thrown on the ıployer, on whom insurance schemes already impose too uch clerical work that is not only unremunerative in a negative way but entails considerable positive expense. It should not be difficult to devise a scheme that would relieve employers of this burden of collection, which in the case of builders is much complicated by the casual character of the employment. More vague, but not less important, is the question of the dilution of labour. Dr. Addison, replying to a question in the House, said that there was a shortage of more than 3,000 skilled workers on the houses under construction, and last Thursday Mr. Lloyd George stated that the additional number of skilled hands then required was 5,500. If there is any virtue in a comparison of these figures it is clear that the situation is very rapidly getting worse. The Prime Minister's statement was followed by a brisk passage of arms between him and the Labour leader, Mr. Adamson, who expressed the opinion generally held by the workers that they are being unjustly blamed for a situation for which Government is really responsible. What builders would like to know is what exactly has caused this shortage. Government should be pressed to solve this mystery. Until they do so, harangues and altercations, in or out of Parliament, are so many essays in absolute futility. Parliamentarians are in some danger of forgetting that the issues at stake are concrete and practical, not political and dialectical.

"Low, Intermediate, and High"

These terms are used in the Government request that each local authority throughout the country shall appoint a special housing committee. They refer to the relative importance of the buildings for which permission may be granted or withheld. In the "Low" category, buildings classed in which are to be delayed or prohibited, are billiard-halls or saloons, cinemas, music-halls and theatres, dancing-halls, licensed premises, clubs, and premises for other recreations. "Intermediate" includes buildings of which the immediate necessity is not obvious, such as speculative, office, or other buildings; multiple shops, large retail stores and warehouses, some factories and mills, and churches, chapels, and places of public assembly. Buildings classed as "High" because they are considered to be of public importance are—industrial buildings in private ownership which cannot be prohibited without most serious consideration. Each housing committee is to consist of nine members, of whom five are to be chosen by the authority from its own members, and two are to represent building trade employers, and two to be appointed from the workers. It will be seen that no architects are to be appointed, unless perchance they happen to be members of a local authority. But why should their appointment be left to chance? On such committees they could render invaluable services.

Planning American Department Stores

It is so commendable in the R.I.B.A. to arrange for really practical papers to be read in the intervals between those that are more academic, that we regret being unable to find space in this week's issue for the very useful contribution made on Monday evening by Mr. H. Austen Hall. Although no new stores have been built in America during the last five years, those already in existence there were well worth the patient study and close personal examination Mr. Hall has given them; for they are the exemplars to which our own architects will turn in meeting the changed conditions of trading in this country. As the "stores" system has been most energetically developed in America, it is naturally to that country that we look for the right kind of housing for the mammoth miscellanies that it is now the custom to collect under one roof. In particular, Mr. Hall gives a detailed description of the colossal Wanamaker store in Philadelphia, which is the largest single-building store in America. Mr. Austen Hall takes note of the architectural character of these stores, as well as of their structural peculiarities, and his paper, of which we hope to find space for an abstract in next week's issue, is as valuable as it is opportune.

Architectural Causerie: Cornices

A FEW weeks ago I broached the subject of Cornices, which I now resume. The proportioning of a cornice to an astylar building is a delicate matter; some prefer to do it by eye or by rule of thumb. Both methods are unsatisfactory. McKim never attempted such an operation without referring to the whole gamut of cornices used under similar conditions, whether the problem before him consisted of a country house or a building like the Tiffany. His methods were those of the Italian and French masters. He realised that modern architecture tended to become highly specialised, and therefore highly artificial, depending ultimately upon accumulation of data for its rectitude. Once McKim understood the amount of labour such procedure entailed, he renewed his researches, and in this patient and laborious investigation can be seen the reason why his buildings are so successful.

* * *

It is only when it is correctly proportioned that a cornice adds dignity to a building, by giving the right weight of shadow. We English have signally failed in this particular, excepting a few outstanding works by eminent men. The old writers recommend that the whole height of a building be divided into twenty-five parts, two of which shall be given to the height of the cornice, or a twelfth and a half part of the total height of the building. There are, of course, certain dispositions that warrant a departure from this excellent rule, but investigation of certain historic buildings shows very slight divergencies from this interesting rule. For example, the cornice of the Spannocchi Palace at Siena measures 3-37ths of the total height, that to the Piccolomini Palace at Siena measures 2-27ths. In the Palace at Pojana, one of Palladio's works, the cornice approximates to 1-14th of the total height. The Strozzi Palace at Florence boasts a cornice which is 2-29ths of the height of the façade, and the Pandolfini in the same city has a crowning feature of similar dimensions in relation to the vertical mass—namely, 2-29ths. For the cornices to the Villa Montecchio and the Villa Caldogno, both by Palladio, 2-29ths of the height of the vertical mass was deemed sufficient. But in another villa for the Caldogno family the same architect was content to apportion 1-15th of the height to the cornice. The celebrated cornice to the Farnese Palace at Rome has a proportion of 1-17th to the height of the vertical walling, while the Gondi Palace at Florence has a cornice 2-35ths of the whole height of the building.

* * *

It would be possible to cite instances of successful cornices without number which enrich London buildings. There are cornices of Vignolian origin, such as Sir Christopher used for St. Paul's and Cockerell adjusted to the faultless proportions of the Sun Office in Threadneedle Street. There are the block cornices of Milan and Rome, and the architrave cornices invented by Peruzzi. Once we take up the subject it is astonishing what a variety we encounter. The chief problem before London architects is to give their buildings the right sort of crowning feature, which, in the first place, will conform to the conditions imposed by the London Building Act, and, in the second place, will be suitable to the width of the street in which the building is to stand.

* * *

There are occasions when the cornice should be of slight projection, and others when it should be fully charged; times when it should be complemental to features of adjoining blocks, and times when it should dominate half a street. Let the crowning features of buildings be proportioned to the height, let them be sympathetic to the minor attributes which they dor nate, and, above all other things, let designers esch the claptrap vulgarities of parochial motifs and shun showy exhibitions of mountebank taste.

* * *

It is indeed surprising how little study is given to t design of cornices, whether internal or external. T majority of modern buildings are mere packing-cas and very rightly so, considering that commercial nee dictate the style; but there is no reason against su boxes of stone or concrete being rendered beautiful having a well-designed crowning feature. Not only it essential for an architect to study his cornices in re tion to the height of a street but he must not negl to proportion such features with regard to the width a street. For example, it would be fallacious to ha a cornice with an immense overhang in the narr streets of the city, or a mean one to a building faci an open place.

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There have been instances of cornices in Lond having to be cut back years after erection owi to faulty construction and too great a projection. Th used to be a splendid building forming the entrance Serjeants' Inn, Fleet Street, with a cornice of excell scale, now, alas, swept into the limbo of things f gotten. Ewan Christian gave the cornice to the Natio Portrait Gallery, but sacrificed scale to delicacy detail. Barry's treatment of the cornice to t Reform Club in Pall Mall is all that it should be, a no quarrel can be picked with the mutular Doric corn placed by the selective choice of Sir William Chamb to embellish the front of the Albany in Piccadilly.

* * *

There are cornices of excellent scale in the Ci Moorgate Street, designed by Sir Robert Smirke, ho a few; Gresham Street a few more—in proximity to t Guildhall. In Old Broad Street there are two go cornices; in Lombard Street, three; while the Vignol crown to the Sun Office and the two-faced modill cornice in Lothbury maintain the dignity of the preci of the Bank. There is likewise nothing wrong w the cornice to the Savings Bank in Queen Victo Street.

* * *

Victoria Street, Westminster, is a street of gigan cornices. It is likewise a street of consulting enginee a fact revealed in a jocular way by the vast number stone balls resembling paper weights standing upon t window ledges. It is a cold street, along which sou western gales drive, hence the necessity for pap weights.

* * *

Just as the enthusiasts of the Gothic Revi experienced difficulty with tracery—some designers to-day approach the design of art cornices w trembling fingers. The London Building Act is resp sible for much that is wrong in English desig particularly the harsh prickly sky lines of mod buildings. What can be expected of a rule that lim the vertical height of a building to eighty feet, and th allows two stories to be built in the roof above t cornice? In such circumstances it is almost impossi to avoid producing hybrid compositions. Attem have been made, it is true, to compromise, notably the case of the Waldorf Hotel in Aldwych, where curvilinear roof, following the 18th-century mode French taste, attempts to avoid the difficulty. T stories in the roof above a main cornice mean archit tural features, and the introduction of architectu features means chaos.

AERO.

Furniture. 1.—A China Cabinet

Designed by J. Henry Sellers

This cabinet, an admirable example of simple and effective design, is in mahogany, with ebony and satinwood lines; it is framed in three separate pieces. Other examples of furniture designed by Mr. Sellers were illustrated in our last issue.

Restriction of Output

By Major H. BARNES, M.P., F.R.I.B.A.

THE art of criticism is the art of life. It implies the power to choose, to discriminate, to select, to reject. It contains within it the assumption of omniscience, a superiority of intelligence, a ower of valuation, of capacity to put into the balance, weigh and test all that life offers. There are no dead itics, and when he sleeps the critic is no longer one. ne associates the name and the practice with the perormances of men. The painter, the sculptor, the poet, e architect, the musician; all are the prey of the critic. is their performances which are his subject matter; ccasionally it is their personality, still more occasionally eir conduct.

Critics of Conduct

Critics of conduct have a greater range than their llows. There are many people whose work is of little terest to those to whom the name of critic is most equently applied, but while their work in itself is of ttle interest, its effect upon the larger interests of life ay from time to time subject them to the attention of e critic, and perhaps more often to his blame. Such re the people upon whom from some quarters is being laced the odium of responsibility for the slow success f the housing schemes. If we are not getting houses, e are being told that the main responsibility lies with ose who actually build them. It is because the brickyer will not lay bricks that the walls do not go up.

Restriction and the Unions

Trade unions lie under an indictment which contains vo charges. The first is that those who are in the unions re restricting output; in other words, they are not orking hard enough. The second is that the unions emselves will not agree to the dilution of labour; in ther words, that they will not permit men, whose period f training and qualifications is not equal to their own, to ngage in the occupation their union represents, and , by reason of this dual policy, houses are scarce nd houses are dear.

It is difficult in these days, though perhaps not more than at any other time, to form an impartial and etached view, to submit the conduct of men to the cold crutiny of disinterested observation, but this is a case which at least it should be attempted, and I propose occupy a little space in examining the first of these harges.

The Bricklayer's Output

It is said that there is a restriction of output on the art of the craftsmen in the building trades. The xample that is generally quoted is that of the bricklayer. Ve are assured that at one period it was his wont to ay 1,000 bricks a day, whereas now in some cases it is sserted that it has fallen to 150. This is one of those eneral charges which are rarely, if ever, substantiated y particular examples. To many people the work of e bricklayer seems to be a continual operation carried n under unvarying circumstances, and capable of proucing a standard result. Those who are more familiar now that there are occasions on which 150 bricks laid n a day may be equal to 1,000 bricks laid on another ccasion, and a comparison to be valid and useful would equire to be made of work done under identical condiions. The poorest excuse for one's own ill-conduct is hat the conduct of others is no better, but while that so, if one is to take an impartial view of the action of one section of the community it is not possible to ignore similar behaviour in that of another.

Small Output, High Prices

Recent examples have been freely quoted, and are well known, in which, to maintain the price of their commodity in the market, those who are responsible for the direction of great industrial and commercial enterprises have deliberately restricted the output of such concerns, finding it more profitable to sell a smaller quantity at higher prices than the full production of which their businesses are capable at the price which such a supply put on the market would establish. While this is practised, and not too ardently condemned in those quarters from which the criticism of the craftsmen comes, it is perhaps not too much to say that example is better than precept. The world as a whole has to learn, as well as any particular section, that the life of the whole community, apart from the profits of particular individuals, depends upon abundance, and that those who either refuse to give a share which they are capable of producing, or prevent others from giving that share, are equally culpable, whether they be the directors of great commercial trusts or the officers of a trade union.

Why Men Work

There are men who work hard; there are those who do not. It is said to be impossible to serve two masters, and it is probably equally difficult to maintain two such opposite views—that men should work to their utmost on the one hand, and that on the other the goal of effort is to "retire" to a life of leisure, ease, and enjoyment. Men work hard for one of two reasons: either they enjoy their work, finding in it the means of that self-expression which is the continual urge in life, or they hope for such gain from it as will give them the means for the kind of enjoyment which to them is the end of effort. The first desire of those who profess and practise the art of architecture should be the desire that the craftsman might love his work, for this would not only be an incentive to the most work, but also to the best work. How far removed we are from such a condition of things it is not easy to say. Men do take joy in their work, men of all crafts; happily that is still the truth, but the conditions of modern building work can hardly be said to produce the emotions which keep the professional man, the artist, the administrator, at their occupations regardless of the passage of time. The free and uncompelled devotion of men to the pursuits in which the whole of their interest is engaged cannot be taken as a measure by which to appraise the action of men who are performing work in which it is impossible for them or anyone else to feel any pride.

The Golden Incentive

The second incentive is that of gain. The golden prize which sets the pace in the commercial world cannot be said to have much chance of showing its power over the action of the common craftsman. True, his wages are now from a money point of view much more than they were; but money is good only because it gets goods; and the goods that are to be obtained by money to-day are fewer than ever before. There is no excuse for workmen any more than for any other class who do not give an honest equivalent for what they get; but in passing our judgment upon them let us be sure first that the facts are established, and secondly, that the causes which produce the facts are not deeper than those which govern the action of the individual man.

Lessons of the Reinforced Concrete Roof Collapse at Birmingham

(Communicated)

THE reinforced concrete roof of a garage building being erected at Birmingham collapsed on January 23 during the course of construction, with an unfortunate loss of life. A coroner's inquest was held to determine the cause of the accident, and to obtain such information as would assist in the prevention of similar accidents in the future. The extent to which reinforced concrete has been adopted in recent years for all manner of constructions suggests that some practical comments by one who closely followed the evidence may help towards assimilation of the lessons that are to be learned from the facts of the case as brought out in the evidence.

It may be stated that the failure was in no way a fault in design. The designs and calculations of the engineers were never in question. It was admitted at once by the independent experts who gave evidence that the designs were more than adequate. Furthermore, the contractors entrusted with the carrying-out of the work were a most reputable firm, desirous of producing only the best of results. The foreman in charge was a conscientious, hard-working employee, highly spoken of by all who came into contact with him.

The following points were brought out in the evidence:

(1) At the time of the accident the concrete in the roof construction had not properly set.

(2) A considerable portion of the concrete was of a porous nature, giving an insufficiency of adhesion to the reinforcing steel.

(3) According to the specification, the concrete was to be mixed in the proportion of one part of cement to two parts of sand to four parts of aggregate, whereas, in the actual construction, the proportion was altered to one part of cement to one part of sand to three parts of aggregate.

(4) The main and secondary beams were cast independently of the decking slabs they supported.

(5) The vertical stirrup reinforcement of the beams did not run up into the heart of the decking slab as called for in the designs of the engineers.

(6) A long beam in one wall was composed of a continuous series of lintols supported by two columns at the extreme ends with three intermediate supporting brick piers. A note on the designing engineers' drawing called attention to the fact that the brick piers should be built prior to the casting of the lintol beam, as the latter was only designed to carry between piers. In the construction of the work, the piers were not built up to support the lintol beam; a space of 8 in. or 9 in. being left between the top of the brick piers and the bottom of the lintol beam, as shown in the sketch.

(7) On the removal of the props supporting this lintol the beam, which was left hanging in the air, sagged down to the piers with consequent fractures in the beam.

(8) Upon noticing these fractures, the workmen tried to avoid further damage by placing a supporting prop with wedges under the fractured beam. The prop was placed near to the end of the beam, a distance of 2 ft. or 3 ft. away from the end column. Whilst inserting this prop and the wedges the entire roof collapsed.

Let us discuss the points enumerated:

(1) The failure of the concrete in properly setting was in all probability due to the inclement weather during which the concrete was poured. There were intermittent periods of frosts and thaws together with considerable rain. Concrete which has once frozen and remains frozen for a sufficient length of time need not necessarily prove defective, providing proper precautions are taken to let the supporting props remain in position until all signs of frost have disappeared and until the concrete has set sufficiently hard; but concrete which has intermittently been subject to frosts and thaws is exceedingly treacherous and should not be trusted. The asphalt was laid on the roof about three weeks after the date of concreting and before the signs of frost became apparent. Asphalt should not be laid until concrete has had sufficient time to aerate properly, and too early application of the asphalt is especially undesirable during the winter season.

(2) The porous nature of the concrete was detrimental to the strength of the construction, as such concrete would not be sufficiently strong in compression, and would not give a sufficient adhesion of concrete to the reinforcing steel. This lack of adhesion would prevent their working in unison in accordance with the theory of reinforced concrete design.

(3) The porous concrete was no doubt due to the alteration of the specified proportions of mixture. This alteration to the specification was undertaken by the workmen without the knowledge or consent of the contractor. It was done with the very best of intentions, but with unfortunate consequences. The object of altering the specification was to make a richer mixture by using 33 1-3 per cent. more cement than was specified in order to assist the setting of the concrete during the inclement weather. The increase in the cement was brought about by altering the mixtures from 1:2:4 to 1:1:3, but this alteration resulted in the use of an insufficiency of sand to fill the voids in the aggregate, or, in other words, there was not sufficient mortar properly to bond the crushed aggregate. If it was essential that the quantity of cement should be increased by 33 1-3 per cent., the correct manner to produce the desired result would have been to use a proportion of 1 1-3 parts of cement to two parts of sand to four parts of aggregate. The lesson to be learned from this point is that no specification should be altered, irrespective of the good motives involved, without the consent of the designing engineer. It is conceivable that even too great a quantity of cement can be used in some constructions; for instance, an over-rich mixture can prove detrimental when used in a tank that is expected to be water

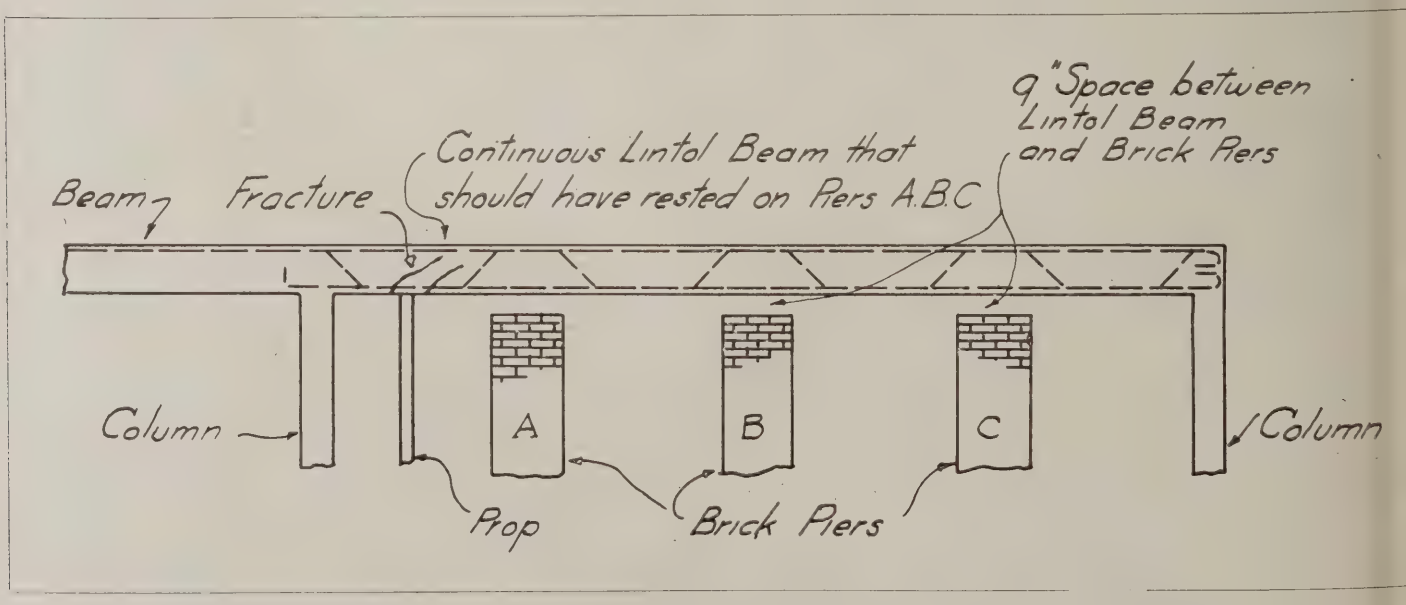
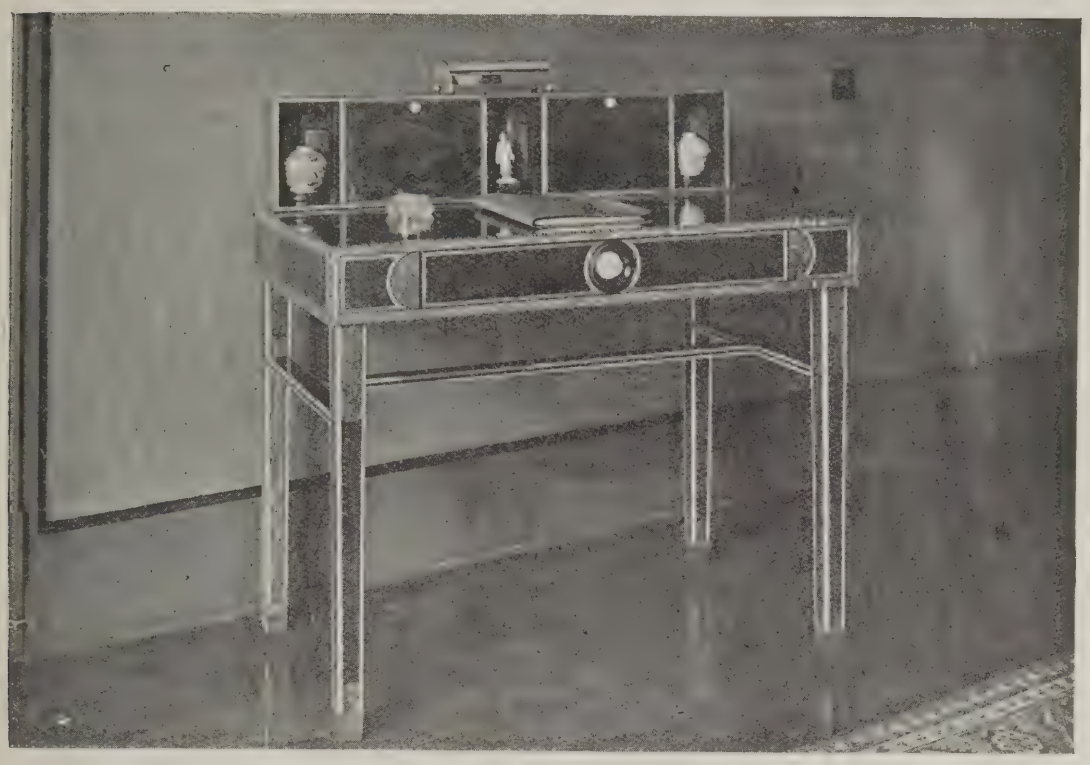


DIAGRAM SHOWING CAUSE OF REINFORCED CONCRETE ROOF COLLAPSE AT BIRMINGHAM.

Furniture. 2.—Writing Desk and Dressing Chest

Designed by J. Henry Sellers



Writing Desk.

Dressing Chest.

The writing desk is in mahogany and Amboyna satinwood, with ivory and ebony inlay. The dressing chest is in mahogany with ebony inlay. Generally all the framing is carried out in mahogany, each panel being a large single sheet veneered on both sides. All joints are dovetailed, and the feet are tipped with bronze shoes.

War Memorials. 2.—A Commemorative Panel

In this example success has been secured by the apt use of conventional motifs. The composition is contained within a simple frame, and branches of bay leaves give a feeling of support to the whole design. The knight in armour makes a strong central feature, and the lettering, based on a good classic model, is well disposed. The panel was designed and executed by the Bromsgrove Guild, of Bromsgrove, Worcestershire.

ght, because an over-rich mixture is ible to crack unduly in the setting of the ncrete.

(4) Some foremen carrying out reinrced concrete work, adopt the practice of sting beams and slabs separately. here are instances where this can be done th impunity, if proper precautions are ken to ensure the slabs and beams workg together, but in such an event the signing engineer should always be conlted. He will be able to show how his ecified mode of procedure can be altered. nder no circumstances should a modiation be made without his knowledge or nsent. Sometimes it is absolutely essenl that the slabs and beams be cast simulneously, because circumstances might event the designer's power of obtaining e desired results in any other way.

(5) The failure to carry out the instrucns as to building up the brick piers to pport the lintol beam prior to the castg of the lintol was an unfortunate error judgment. Even more unfortunate was e placing of a supporting prop and dges under this lintol beam after it had gun to sag. Had the prop been left out, e beam would have sagged down through e 9 in. space between it and the brick r, with no more detrimental result than serious cracking of the beam. Total lure would not have taken place. The ertion of the prop some 2 ft. or 3 ft. ay from the end of the beam where it ted on the column enabled the remaing portion of the lintol to sag with a conuent leverage on the supported end, ulting in the disruption of the upper t of the concrete column supporting the l of the beam. In destroying the upper t of this column the seating of an oining beam was broken away. This oining beam then slipped off the umn with a consequent total and lden failure of the roof.

When a beam shows signs of failure, if happens to be one of a series of conuous beams, the defective beam should be the first to be propped or supported. e correct method of procedure is to start propping the continuous portions still nding, because the failure of the one m will throw on to the adjoining beams sses for which they were not designed.

conclusion, it should be pointed out t the circumstances of this accident are uliarly sad. The foreman in charge obviously a most likeable man, most hly esteemed by his fellow-workmen, ging from the many compliments paid during the course of the hearing. dently, he had had a considerable ount of work thrown on his shoulders ng the latter stages of the construc, and in his desire to give the best that in him, he tried to take upon himself many duties instead of delegating e of them to other parties. The nce of a clerk of works on the job was mented upon. In every fair-sized struction a supervisor should be emed to give his whole time to the work n starting to finishing time during y working day of the week. Proper rds should be kept as to the sequence e work, and such records can only be by a man who is not called upon to orm a multitude of different functions. ould not be expected that the reined concrete specialist can supervise his tructions any more than in a general to satisfy himself that the foreman harge is capable of understanding his gns. If it is desired that the specialist ld assume responsibility for the com supervision of the work, then it is ssary for him to appoint a clerk of s who can devote his entire attention to the job, and this is willingly done by reinforced concrete specialists under specific agreement.

Nor should an architect be called upon to assume responsibility for the complete supervision of the work. According to the rules of engagement of an architect, as laid down by the R.I.B.A., an architect is only required generally to supervise the work in order to see that his designs are being properly interpreted. As previously stated, the detailed supervision of a construction should be undertaken by a resident inspector or clerk of works. That is the outstanding lesson we may learn from this accident—doubly regrettable when we consider how easily it might have been prevented.

Unification of the Profession.

The Council of the R.I.B.A. have unanimously adopted the following report of the Charter Committee:

Interim Report of the Charter Committee.

1. In compliance with the instructions of the Council, the Charter Committee has examined and is now considering the question of unification and registration as it presents itself at the present time, together with the means which may best give effect to the general desire of the profession.

2. In view of the time that has elapsed since the mandate of the general body was given and the wider outlook now apparent, the Charter Committee recommends that the Council should summon a special general meeting at an early date with a view to obtaining sanction for the Council to prepare and present for the consideration of the profession a more extended and comprehensive scheme than that covered by the resolution of 1914.

3. If this proposal is approved, the Committee suggest that the Council should, also with the sanction of the general meeting, appoint a committee representative of the whole profession to prepare such a scheme as is indicated above. This committee should be composed of:

(a) Representatives of the Royal Institute of British Architects.

(b) Representatives of the Allied societies in the United Kingdom.

(c) Representatives of the Architectural Association.

(d) Representatives of the Society of Architects.

(e) Representatives of the Official Architects' Association.

(f) Representatives of the Architects' and Surveyors' Assistants' Professional Union.

(g) Representatives of the architects not belonging to any professional organisation.

February 20, 1920.

A special general meeting will accordingly be held on Monday, March 22, at eight p.m., for the purpose of obtaining the sanction of the general body of members for the Council's proposals as the first step towards the unification and registration of the profession.

The following resolutions will be moved on behalf of the Council:

1. "That this general meeting of the Royal Institute of British Architects approves of the Council's proposal to prepare and present for the consideration of the profession a more extended and comprehensive scheme than that covered by the resolutions of 1914."

2. "That this general meeting of the Royal Institute of British Architects approves of the Council's proposal to appoint a committee representative of the whole profession to prepare such a scheme as is indicated in the report of the Charter Committee dated February 20, 1920."

Societies and Institutions

Edinburgh Architectural Association.

At a meeting of the Edinburgh Architectural Association, held in the rooms of the Association, George Street, Edinburgh, on Thursday, February 26, Professor G. Baldwin Brown lectured to the members on "Architecture, the Mistress Art." The lecturer went on to say that, in the popular estimation, painting stood first among the arts of form, but architecture was in truth the most democratic of the arts, because it was the best in that it made the directest and widest appeal. There were millions who could be made to feel the sublimity of the exterior of St. Paul's of London, while in painting they would only see what was superficial. The aspirations after the beautiful, with which Mr. Bevin, in moving words, had credited the dock labourer, could be best nourished by the great architectural community in the arts, their co-operation involving the wide diffusion of beauty among the objects of man's environment. With architecture the "mistress Art," and sculpture and painting confined to subsidiary operations, artistic epochs like the mediæval were possible, when great buildings were reared and adorned to express the life and aspirations of the citizens. Style in the decorative and industrial arts could only be secured by the subordination of the part to the whole, whereas the picture painter claimed for his work complete independence. In painting and sculpture as practised in the modern spirit the watchword was "Nature," and naturalism might almost be described as the poison of decorative art. Hence, schools of design should be under the control of architecture, and painting and sculpture have their home elsewhere. In Edinburgh there had long existed an established home and a living tradition for these arts under the Royal Scottish Academy, and by encouraging and extending this work, while at the same time establishing on fresh lines a separate school of architecture and its subsidiary arts, an excellent new start might have been made. No advantage, however, has been taken of the opportunity.

Liverpool School of Art.

On Thursday last the students of the newly-formed department of architecture in the above school visited the picturesque old church of Woodchurch, situated in the Wirrall district of Cheshire. This ancient fabric contains many interesting motifs, although its detail is coarse and heavy, which indicates that the structure was built towards the end of the perpendicular period. The square tower, with its diagonal buttresses, west doorway, grotesque gargoyles, and crowned by the characteristic battlemented parapet, is typical of the many Cheshire churches. A visit was also paid to a small housing scheme now in course of erection at Birkenhead, the architects being Messrs. Rees and Holt, who kindly gave their permission for the students to inspect their buildings. Mr. Gordon Hemm, in charge of the department, explained the work in general.

Institute of Builders: Annual General Meeting

MR. EDMOND J. HILL (President) took the chair at the thirty-sixth annual meeting of the Institute of Builders, held at the offices, 48, Bedford Square, on March 10. Mr. A. G. White (Secretary) submitted the annual report as follows:

During the year the Council received a copy of the proposals of the R.I.B.A. for a revision of the agreed form of contract hitherto issued. Meanwhile, the proposals of the National Federation for a building code have been undergoing careful revision by the Joint Contract Committee representing the Federation and the Institute, assisted by solicitor and counsel. This question is about to enter upon a fresh phase involving probably active participation by the Institute. The Joint Committee reported to the Council of the National Federation on January 6, when, subject to a minor amendment, the draft National Building Code, then presented was adopted and recommended for adoption by the general meeting of the Federation on January 28. At the same time the Council instructed the secretary of the Federation to notify the R.I.B.A. that as from July 1, 1920, the Federation proposed to cancel the agreement under which the present R.I.B.A. form is issued.

The Building Code

The Building Code now put forward is a more elaborate document than any form of contract hitherto agreed in this country. It embodies: index, definitions, regulations as to obtaining tenders, forms of tender, schedule of conditions, and form of contract. There has also been prepared a form of sub-contract to be used in connection. In older forms of contract the architect occupied a position of absolute authority; in later forms that position underwent a change, inasmuch as his absolute authority was limited to a few special cases. Under the new Building Code that process has been carried to its logical conclusion and the position frankly accepted that there are only two parties to the contract, viz., the contractor and the building owner, and that the architect is the agent of the latter. The principle of mutual responsibility as between the parties to the contract is sought to be maintained throughout and their respective duties are more clearly set out than has hitherto been the case.

The representatives of the Council upon the Joint Contract Committee were able to play a useful part in the preparation and submission of a suitable form of contract for use with Government housing schemes. This eventually formed the basis of the form actually issued by the Ministry of Health.

The thanks of the Institute are due to Mr. E. J. Hill, Mr. Ernest J. Brown, and Mr. Walter Lawrence for services rendered in that connection, and also, in the case of the two former gentlemen, for their services on the Contracts and Specification Committee appointed by the Minister of Health to advise on these matters.

At an extraordinary general meeting held on May 7, 1919, it was resolved to adopt the new articles of association. This was confirmed at a second extraordinary general meeting held on June 4, 1919. A special circular was afterwards issued calling the attention of members to certain important changes consequential upon the adoption of new articles. Inter alia, attention was drawn to the provisions made therein for setting up provisional branches of the Institute, and it is interesting to be able already to intimate that the first provisional branch has been inaugurated at Manchester, thanks to the initiative displayed by one of our vice-presidents (Mr. S. Smethurst). The Council hopes that this example will be followed elsewhere, and that a large number of such branches will be established during 1920. A form of certificate of membership is being prepared, and as soon as the necessary plate has been engraved, copies will be struck off and distributed to each member. A syllabus of the proposed Institute examinations is also in preparation.

Apprenticeship Awards

Upon the initiative of the late Mr. W. J. Renshaw, a scheme for providing apprenticeship awards was prepared by the Apprenticeship Committee, approved by the Council, and sent on to the Joint Building Trades Apprenticeship Committee (London) for its observations, and, if approved, as to its views on the best way of putting the scheme into force. That Committee approved the scheme with a slight amendment, and it is understood the scheme has been recirculated for the consideration of all representatives of trade unions on that Committee, after which it will be reconsidered. In response to the request of the City and Guilds of London Institute, asking the Institute of Builders to authorise the department again to announce the prizes and medals for next year on the same terms as before, it was decided to accede to the request. The following grant has been made during the past year: The Builders' Benevolent Institution, £50. The Council regrets to have to record the loss through death of three well-known and highly-esteemed members, namely: Mr. Wm. Shepherd, of London; Mr. J. W. White, C.B.E., of Sunderland; and Mr. W. J. Renshaw, of London. A silver medal was awarded to Thomas James Ford, a pupil of the Brixton School of Building, who had been selected as the best student of the Session 1918-19.

The President proposed the adoption of the report, and referring to the new contract with regard to housing, said it was a great advance on pre-war standards, although they were not absolutely satisfied. There were a few items they wanted which they did not get, but those of them who were members of the Contract Committee of the Ministry of Health could not be blamed for that. Mr. Brown fought for them tooth and nail. Mr. H. Willcock (Wolverhampton) seconded the motion and the report was adopted.

On the motion of Mr. E. J. Brown (hon. treasurer), seconded by Mr. R. B. Chessum, the accounts were adopted.

The President proposed the election of Mr. S. Smethurst as President of the Institute, and this was seconded by Mr. H. Matthews, and carried unanimously.

Mr. Smethurst was invested with the chain of office and took the chair, and proposed a hearty vote of thanks to Mr. Hill, the retiring president. Mr. F. May seconded the motion. Mr. Ernest J. Brown, in supporting, referred to the setting-up of a Works Committee in connection with the business of the President which might lead to developments in other businesses. The motion was carried.

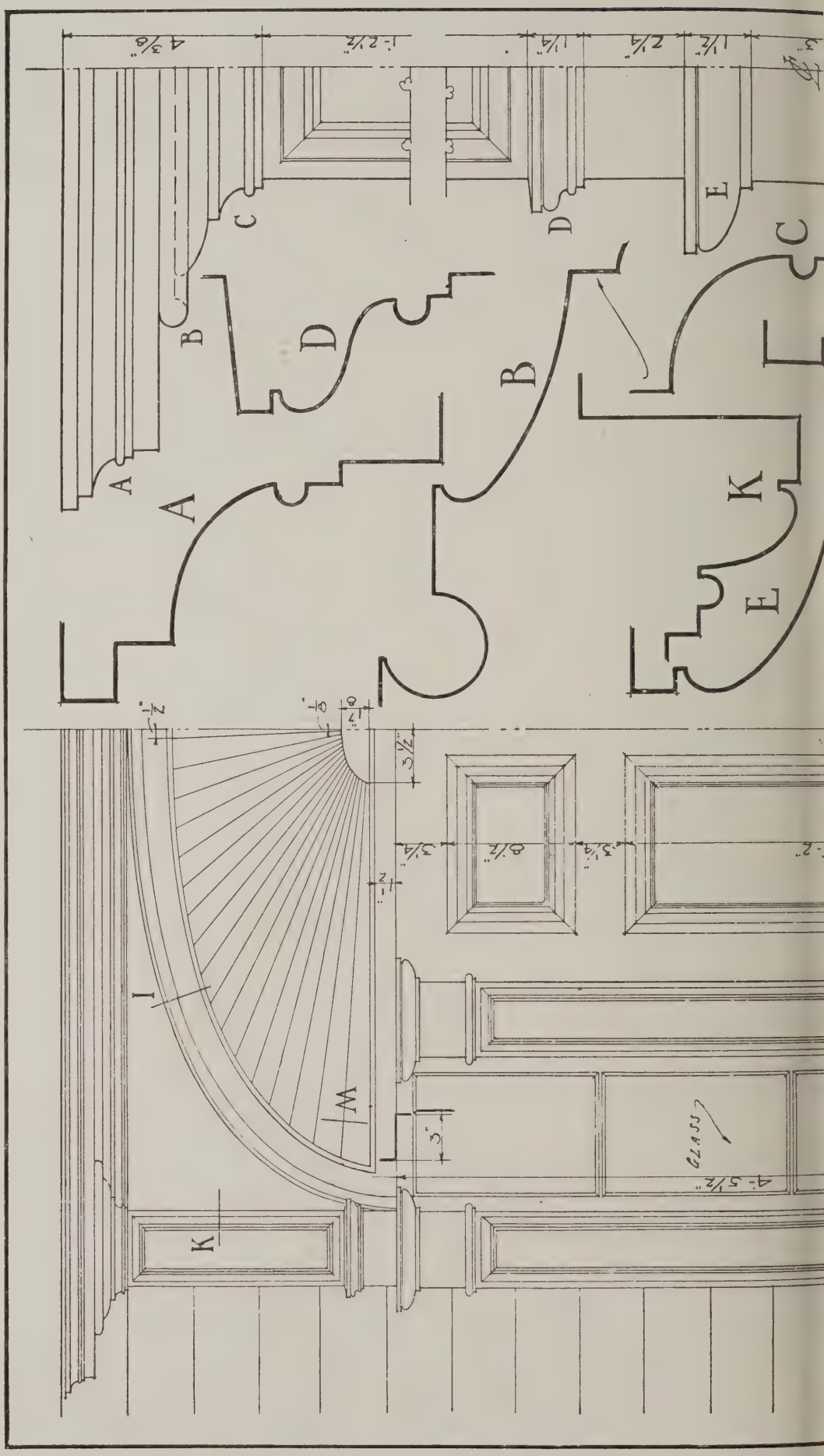
The other elections resulted as follows: Vice-president, Mr. H. Willcock; treasurer, Mr. E. J. Hill; Council, Messrs. H. H. Adamson, G. M. Burt, J. Croa C. B. Falkner, R. J. Holloway, F. M. Ma G. H. Parker, H. P. Shepherd, F. Wood R. B. Chessum, S. Easton, A. J. Forsdik W. Moffat, T. Thorn, F. P. Rider, A. H. Colls, and H. Matthews; auditor Messrs. J. F. Parker and N. R. Stirling

Presidential Address

Mr. S. Smethurst, in his presidenti address, referred to his predecessors the office, and to the loss sustained by t Institute in the deaths of Messrs. W. She herd, W. J. Renshaw, and J. W. Whit When he was asked to become a vic president he consented on the understan ing that the work of the Institute shou be extended to the provinces. This w agreed to, and steps taken to provide f it by reframing the rules. The work ha now been accomplished, and the fi branch established at Manchester. H hoped during the year to have branch established in suitable and convenie centres all over Great Britain and Irelan Personally he was looking forward to t greatest good coming both to the craft a the nation through this development. would emphasise the need for organisi for the development of that side of the life as builders which dealt with t more elevating side of their craft, leavi the merely commercial (he had almost sa mercenary) to the National Federation Builders. In saying that he did not wi to deprecate the right commercial attitu being observed by the builder—this in place was most important. The Institu stood for everything that was most honou able in business, and no man had a rig to membership who did not observe t strictest standards of commercial morali It stood, however, for something more. stood for good craftsmanship, and the a of its members should be in every w possible to promote this. Good buildi had to do with good architecture, and all the arts architecture was the o which affected most, for good or for ev the lives of the people. A well-prop tioned building, properly accordant w its surroundings, was always ministeri to a finer taste in the populace. The h tory of a nation was often written in buildings. The restraint and dignity the old Georgian houses in the square which they were meeting were to him real joy and pleasure, and they were standing reproach to much of the mere cious architecture of the Victorian era.

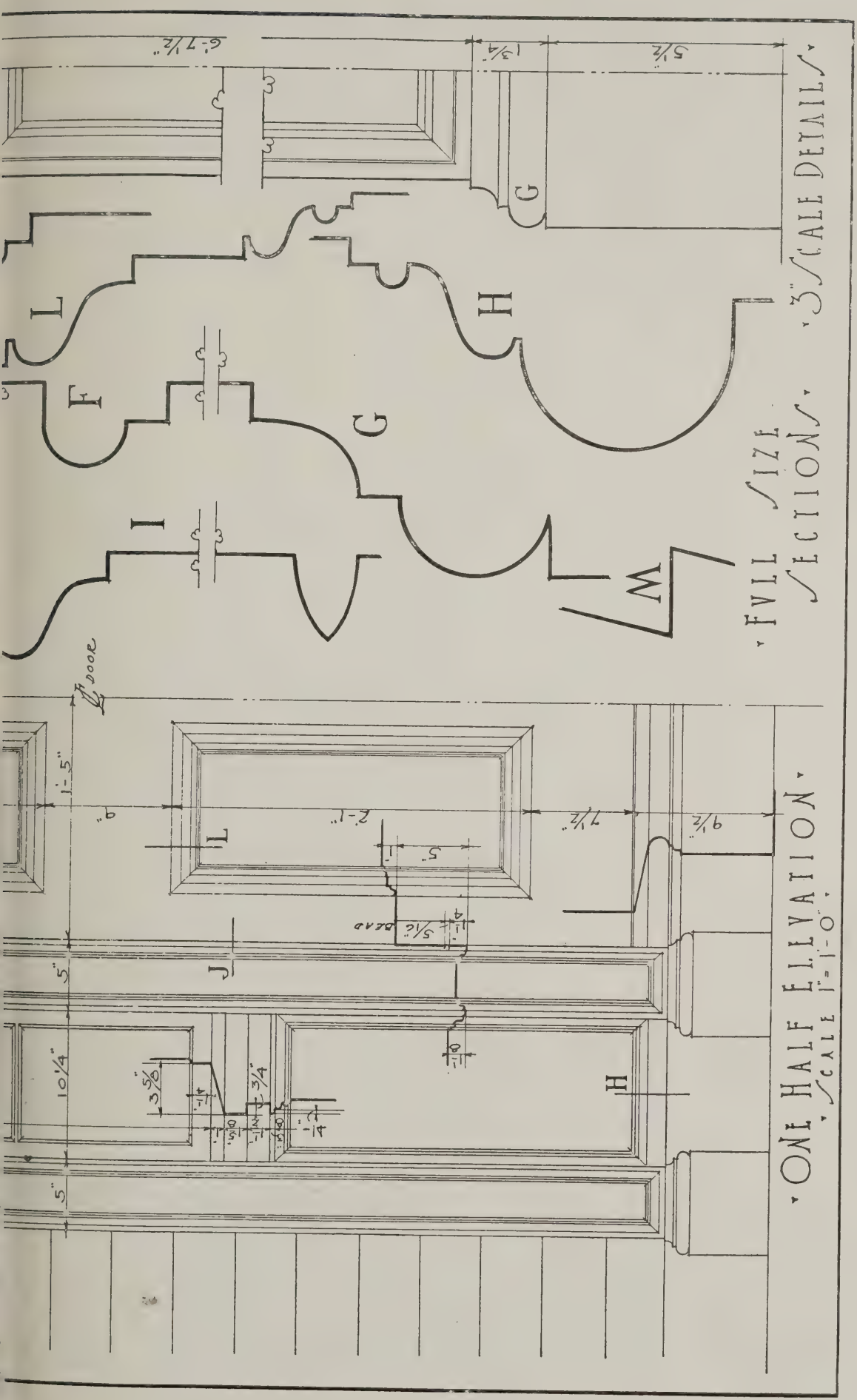
Function of the Institute

The function of the Institute was to e cate its members to an understanding a appreciation of the best in architect and craftsmanship. Men proclaimed w pride that the building industry was, w the exception of agriculture, the largest the country, and on that fact they base claim for its recognition. Personally, claimed its importance as being due, to mere numbers, but to the quality of work it was engaged on. He had no h tation in saying it was more interest than any other vocation. It was free fr that monotony which characterised many callings, for each day brought duties and new problems to solve, esp



Details of American "Colonial" Architecture. 2.—Doorway to House at Hampton, Connecticut

Measured and drawn by J. Frederick Kelly



Although this doorway was built only a hundred years ago, and therefore does not belong strictly to the "Colonial" period, it has all the characteristics of the earlier work – simple outlines, graceful proportions, and delightful detail. The panel treatment with double mouldings is rather uncommon, and the louvred doors and fanlight are extremely effective. Our illustration is from the "Architectural Forum."

(*See also page 355.*)

lly to the master builder who lived in ontact with his work.

He looked to the new provincial ranches seeking a close alliance with the rchitects on the one side, and the more ntelligent operatives on the other, and to hen discussing problems they were mutually interested in, and this, better than nything he knew, would recreate the pirit of the old guilds. Present-day advoates of the guild system seemed more oncerned with a more equitable distribuon of the earnings of industry than they hould be. Anyway, their proposals in his respect were always impracticable, nd any attempt to apply them to the Britain of to-day must result in unqualied failure. In the summer time visits hight be made to buildings of note, both ncient and modern, and for afternoons pent in such a way he saw coming real leasure and profit to all. He imagined hat each branch would take a very real nterest in encouraging youths entering he trade as apprentices by offering rizes for proficiency and doing all they ould to encourage the true spirit of craftsanship, and probably offering recognition and distinction through a scheme yet to be formulated for young men who by ability and good conduct earned them.

He had the honour of being the chairman of the Education Committee of the Joint Industrial Council for the Building Trade, and they had prepared, for submission to the adherent bodies to that Council, a scheme for dealing with the training of boys coming into the industry. This had received the unanimous approval of the Council, and he had little doubt but that it would receive the support of the majority of the bodies concerned. If it did, and the scheme was carried out in a proper spirit, he believed they would have laid the foundation of a great and good future for the industry. In conclusion, the President expressed his sincere feeling of appreciation of the honour which had been done him and promised to do all he could during his term of office to forward the interests of the Institute.

[The policy outlined by Mr. Smethurst is conceived on broad, statesmanlike, and progressive lines; and his tenure of office promises to be one of considerable benefit to the building industry.]

FRONT ENTRANCE OF HOUSE AT HAMPTON, CONNECTICUT (CIRCA 1820).

(*See double-page plate.*)

Reinforced Concrete Fence Posts*

BY E. F. W. GRIMSHAW.

In the manufacture of reinforced concrete fence posts the same factor applies as to most concrete work, i.e., the more cement that is used the better. Being of small section the posts require a strong mixture, and in most of my work I used one of cement to three of aggregate. Many users of concrete disagree about the aggregate, both as to the amount in proportion to the cement and again in the proportion of sand to shingle—I have found that in the case of posts the less sand used the better, and I know that some of the posts made under my instructions with shingle only are as good to-day as when made ten to twelve years ago; but I regret to say that I had many failures due to too much sand. This may not have been all due to the sand, but partly to bad mixing when there was an excess of sand. I believe firmly in well mixing dry, and if cost would permit I should dry all sand before mixing.

Mixing wet is not the same—if we get material badly mixed dry, the particles of cement will not reach the badly-mixed portion, and will, of course, cause trouble: whereas if well mixed dry—even if the wet mixing is not perfect—the damp of the concrete will reach any part after the rough mixing has been done, and thus we have sound work. It is most important in reinforced work that the cement itself should get well round the reinforcement, and then there is no fear of rust setting up. Of course, these remarks refer to reinforced concrete exposed to air and damp; foundations and other such works require different treatment. This is another matter nearly always uncertain in the treatment accorded.

In my experiments I used all sorts of sections, round, square, oval, indented bars, etc., but I found that for ordinary posts from 5 ft. to 7 ft. the most suitable reinforcement was 5-16 in. round iron; iron is the best, but it was very difficult to get—being out of fashion. The modern high tensile steel sets up rust at such a rate that it is very troublesome, and as these posts do not require such great strength I see little use for it. I found in my experiments that 5-16 in. gave much better results than ¼ in., the latter being inclined to yield for want of adhesion. I found that a post 4 in. square at ground level and 4 ft. 6 in. out of the ground and pulled from the top withstood about 10 to 15 cwt. when about three months old. I never had a case of a post reported for breaking, except in one instance in which I found no reinforcement had ever been put in the posts.

All sorts of stuff has been used for reinforcement in posts by ignorant people, with fatal results and with damage to their reputation. I found horizontal reinforcement tended to make posts crack at the position of the bindings. The intention of these bindings is to keep the reinforcement in its place in the moulds; but in these posts the extra cost is not worth it—of course, in columns and certain beams or girders in compression, binding is necessary.

The question of the best moulds is another point always in dispute. Up to the time of the war (when I gave up manufacturing posts to join the Navy) I never had an iron mould put before me that could compare in first or last cost with

* Extracts from a paper read before the Concrete Institute.

wood—no doubt they may make a slightly more uniform article, but I do not think that for ordinary fence posts there is any need for exactness, as long as the post is good and strong. I found that a wood mould costing about 4s. 6d. would turn out up to three or four hundred posts—with reasonable care—perhaps, in these days, as wood seems dearer in proportion than iron, the latter may be more economical, but I doubt it.

The posts should be made as far as possible in places where the necessary materials are at hand. As the weight is great it does not do to send them too far. There is an idea in certain people's minds that they can be made anywhere by anybody, but that is a great mistake, and has led to many failures; for the ignorance of the proper uses of cement is great, not to mention the want of even a very small knowledge of dynamics. In order to show men how to reinforce, and the reason of it, some people have made these posts with one bar down the centre, and they have then wondered why these posts, when carted about in about a week's time, went to bits.

The usual method of fixing is to dig a hole 2 ft. or thereabouts and ram the posts in, but I found a very strong and economical method was to put a small shovel full of wet cement in the bottom of the hole; place the posts on this and then fill in to within about 6 in. of top of ground with earth, then put a collar of concrete about 3 in. thick round the post and finish the last 3 in. with earth to make the ground look normal. This does not require much concrete, and makes a first-class piece of work. I have tried driving pointed posts, also screwed posts, but they are not satisfactory.

The weight of the posts is a consideration; and here, again, a great deal may be saved by careful design of the various posts required—there is no use making a square post for all purposes; a properly designed tapered post is the right thing in nearly all cases, but on my return from the Navy I still see most absurd things being made; one very important point I notice is that people still lack faith in the great strength of a properly designed post. I see most monstrous posts still made towering up in the air, as if the designer had no knowledge of common-sense, to say nothing of dynamics.

Minworth Housing Scheme

It will be noticed that the plans of the Minworth Housing Scheme of the Birmingham Tame and Rea District Drainage Board differs in many respects from those recently adopted for this kind of cottage. The planning embodies, in as economical a manner as possible, the matured ideas of the women of the district, who were at an early stage invited to meet, discuss, and formulate possible improvements upon the many existing houses belonging to the Board.

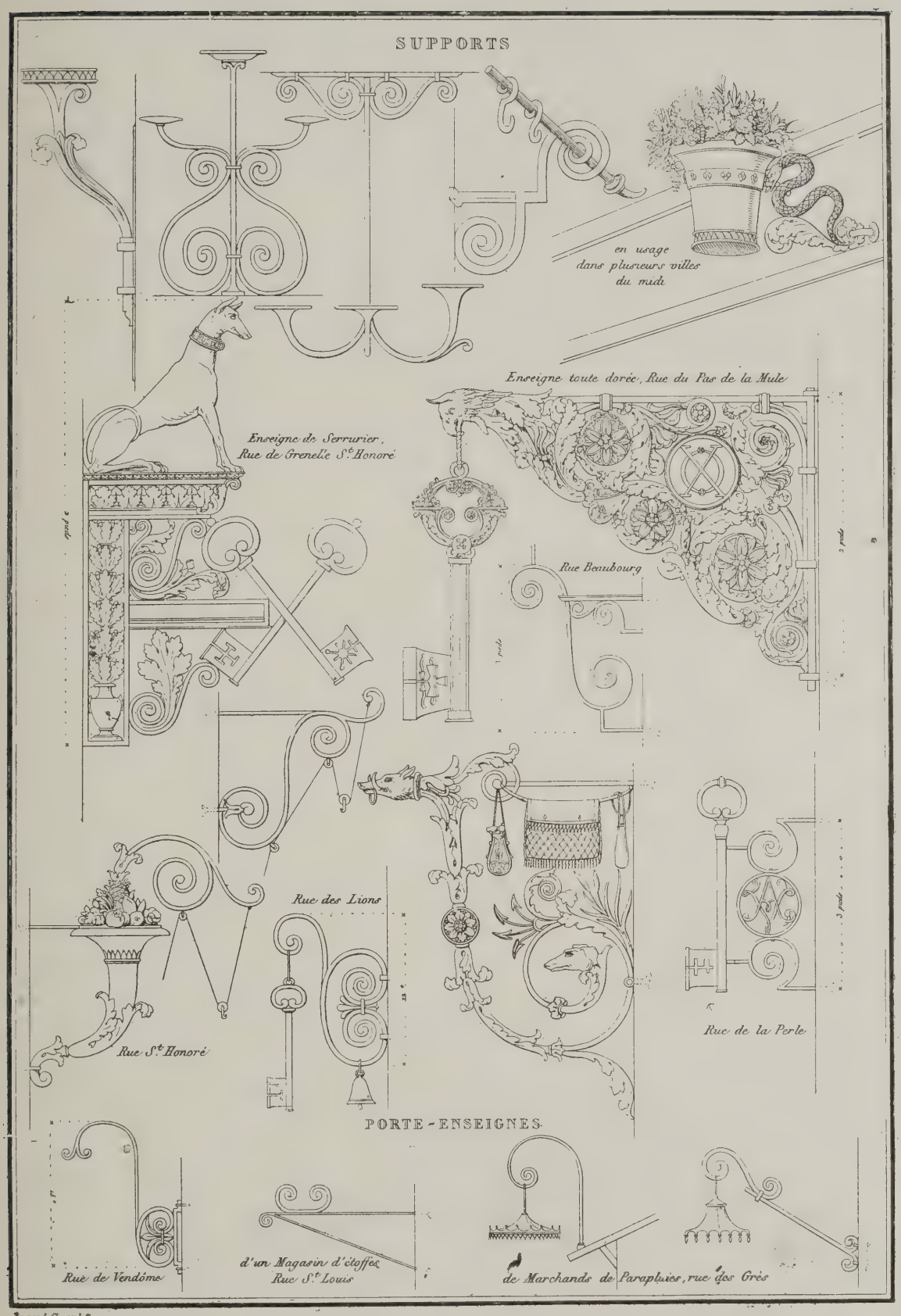
The washing-up sink came in for a good deal of consideration, chiefly owing to the fact that in the majority of the existing houses the sink is placed in the scullery. In the most modern of the existing houses the sculleries have been provided with cooking grates, and notwithstanding the fact that good living-rooms are provided the tenants appear to live chiefly in the sculleries. This was stated to be due to the fact that the women wished to work where it was comfortably warm, and, in cases where there were little children, working in a cold room was out of the question. For economical reasons a fire is not provided in the living-rooms when it is necessary to have one in the scullery. For these reasons in the new houses the women were unanimous that the sinks should be placed in the living-rooms.

To assist and encourage the tenants to make the living-rooms look as comfortable as possible, the sinks in every case are arranged in recesses, which may be curtained off when the sinks are not in use. Shelves for cooking utensils, etc., are arranged at the ends of the sink recesses. It will be noticed that the usual scullery is to be a wash-house containing the bath and self-contained washing boiler. This room opens out of a back lobby; it is not there force a passage-way between the back door and living room, as is usually the case. To meet the wishes of the women the stairs have been arranged in close proximity to the living-room, and with a view to the convenient carrying of slops from the bedrooms to the water-closet without having to traverse the living or other rooms. The women also suggested that there should be plenty of light and ventilation; sash windows have therefore been used throughout and in all cases the sashes are hung.

The walls are built of local common bricks, all external walls are provided with a 2-in. cavity, and the internal walls are plastered two coats finished with a wood float for colouring. The ceilings are finished with "Fiberlic" and "Beaver Board," and the parlour floors are boarded the remaining ground floors being paved with 6 by 6 red quarries. The roofs are covered with 14-in. by 7-in "Delabole" green slates, and this work is being done by Messrs. Wormells, of Coventry. The general constructional work is being done by direct labour.

MINWORTH HOUSING SCHEME: SOME TYPICAL COTTAGES.

French Metalwork. 8.—Brackets and Signs



Paris, like London, can boast a great variety of outside signs. Some graceful examples are shown in Bury's drawing above. These vary from ornamental containers of flowers and fruit to signs for locksmiths and umbrella makers. The locksmith's sign in the Rue de Grenelle St. Honoré somewhat recalls the Dog and Porridge Pot in Blackfriars Road, London.

Manchester Building Employers

The annual dinner of the Manchester, Salford and District Building Trades' Employers' Association has been held at Manchester under the chairmanship of Mr. John M. Macfarlane.

In proposing the toast of "The Building Industry," the Chairman welcomed their new competitor, the guild, if it was prepared to trade along the same lines as themselves. The Manchester Corporation Works Department were likely to be empowered to erect about 100 houses, and as in the case of the guild he welcomed this also if it was a real attempt to deal, on equal conditions with the builders, with the building shortage. Unsuccessful efforts had been made to arrive at an agreement with Sir Thomas Robinson, the Housing Commissioner, to enable the trade to attack the housing shortage en masse, but he hoped that good would result. For the first time they had been asked by the Government to participate in the technical training of boys.

"Our Guests" was proposed by Mr. Henry Matthews, J.P., and Sir Thomas Robinson, in reply, said that real reconstruction would have to come from within the industries, and to legislate in bulk for the whole of the industries would be futile.

Mr. Isaac Taylor, President of the Manchester Society of Architects, also spoke, and Mr. Henry Price, City Architect of Manchester, said that at the present time labour was disinclined to take any risks, and that there was a feeling that labour could do more. The prices offered by the Government for housing were not too high.

Mr. Thomas Chalmers, of Manchester, spoke of the good work the different builders' associations and federations had done. Speeches were also made by Mr. John E. Mayers, of Chester, president of the N.W. Federation, and Mr. Ben Talbot, of Bolton.

Financial Assistance to Public Utility Societies

General housing memorandum No. 9 has been cancelled by the Ministry of Health, and a memorandum, No. 9a, substituted. The memorandum explains certain statutory provisions and regulations affecting public utility societies and housing trusts which desire to obtain assistance from the Government towards the cost of building working-class houses. The object of the memorandum is to set out all the legal and official requirements which should be known to the secretary of the society or trust. These requirements can be met with very little trouble to the society if the following lines of procedure are followed:

(1) With a view to the constitution and preparation of the rules of the public utility society, it is suggested that the secretary of the society should put himself in communication with one of the associations which have been formed to assist the promotion of public utility societies.

(2) With a view to the approval of the building scheme by the Ministry of Health, the architect of the society or trust should put himself in communication with the housing commissioner, who will explain the procedure and supply all necessary forms.

(3) With a view to obtaining a loan from the Public Works Loan Commissioners, the secretary of the public utility society should obtain from the housing commissioner at an early stage a note of the information which the Commissioners will require.

If this procedure is followed, little difficulty should be experienced in complying with the Government's requirements. Paragraphs (1) and (3) do not apply to housing trusts. The regulations have been made by the Minister of Health, with the approval of the Treasury, under Section 19 of the Housing, Town Planning, etc., Act, 1919, and Section 4 of the Housing (Additional Powers) Act, 1919, and will govern the terms of financial assistance from the Exchequer to public utility societies and housing trusts under those sections. The regulations and this memorandum have been placed on sale, and copies may be obtained through any bookseller or directly from H.M. Stationery Office at the following addresses: Imperial House, Kingsway, London, W.C.2, and 28, Abingdon Street, London, S.W.1; 37, Peter Street, Manchester; 1, St. Andrew's Crescent, Cardiff; 23, Forth Street, Edinburgh; or from E. Ponsonby, Ltd., 116, Grafton Street, Dublin.

Correspondence

The Bank of Ireland Model

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In "Aero's" Causerie in last week's issue I notice a reference to the model of the Bank of Ireland. This is still in existence, placed in a small room on the axis of the portico facing College Street, i.e., the entrance vestibule (or one of the entrance vestibules) to the House of Lords.

It is some years since I was shown it by an official of the bank, and I cannot recollect whether an Ionic order is shown; but it is doubtless the model made by Doolittle referred to.

HAROLD G. LEASK,
Principal Draughtsman O.P.W.I.

Liverpool University

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of March 3 there is surely a printer's error regarding the date of the foundation of the Liverpool School of Architecture. A school of architecture was founded in the present University—then known as University College—at least nine years prior to "1904." I had the privilege of being among the first half-dozen students who assembled under Professor F. M. Simpson in October, 1895.

F. JARDINE BARNISH.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am sorry to trouble you with another letter on the age of the Liverpool School of Architecture, but Mr. Yerbury's letter in last week's issue, the generous terms of which I much appreciate, stating the Architectural Association Day School was started in 1901, has made me refer again to my letter to you in your issue of March 3, in which I now see there was a misprint of 1904 for 1894. It was in 1894 that the Liverpool School was opened under Professor Simpson, and it was in 1904 that I succeeded him.

March 10. C. H. REILLY.

Trade and Craft

"Sealoment" and "Sealocrete."

Two striking little booklets setting forth the advantages to be gained by the use of "Sealoment" and of "Sealocrete" have been issued by Messrs. Rowse and Co., of 1, Dawson Street, Whitechapel, Liverpool. "Sealoment" is a colourless and odourless liquid chemical, which when added to cement is claimed to increase the tensile strength of concrete by 71 per cent. in twenty-four hours, and to produce ideal trowelling conditions. This liquid chemical is recommended under all conditions where dustproof and waterproof concrete is desired, and to make brickwork and masonry impervious to moisture. "Sealocrete" is a concrete hardener for floors. It is made in two colours—grey for factories and industrial purposes, and red for foot traffic in public buildings, etc.

Economic Building Corporation and Housing.

The Economic Building Corporation, Ltd., who are specialising in housing contracts and who have upwards of £2,500,000 value of work to commence, are about to enlarge their capital to at least £1,000,000 to cope with the vast amount of work which is continually being pressed upon them. In addition to municipal housing schemes, the corporation are purchasing suitable estates adjoining large towns and propose to develop them on lines which will appeal to the middle classes. The corporation have contracts for housing work on the Continent, which will be available when rates of exchange are more favourable. Many offers have been made to them to underwrite any issue they propose to make to the public, but no definite arrangements have been made as yet.

A New Waterproofing Powder.

A new powder called Bareau has just been placed upon the market by the Building Products, Ltd., of Columbia House, 44-46, King's Road, Sloane Square, S.W.3, as a cheap, quick, and easy means of making concrete or cement rendering absolutely waterproof. Bareau comes to the job in the form of a powder, and is added in the specified proportions to the dry cement. The mixture is then riddled through a sieve to ensure thoroughly even distribution. In the dry state the mixture is then added to the sand and aggregate to form concrete, and the whole turned over once dry. The water is then carefully sprinkled over the mass with a watering can, so as to avoid separating the Bareau from the cement. This slight extra care required in the mixing is more than compensated for in the more efficient waterproofing qualities of a powder as compared with the waterproofing qualities of a compound in paste form.

The company state that Bareau makes the cement slightly stronger in compression and slightly lighter in colour, and that it can safely be used for waterproofing concrete reservoirs and cisterns containing drinking water. By using Bareau with cement mortar the company claim that 11s. per cubic yard of mortar may be saved, and 4s. 9d. per yard super when used for concrete roofs. Bareau is specially recommended for the plastering or rendering of brick and stone walls to make them waterproof and for use in the construction of concrete floors, roofs, and walls, reservoirs, tanks, and cisterns, etc.

The "Cement Gun" and Its Uses

A few days ago a representative of this Journal witnessed a demonstration of the uses of the "Cement Gun," a machine which is well known in America and which should be of the greatest assistance in the solution of the housing problem. When sand and cement, previously mixed dry, are placed in its hopper, the machine automatically feeds this mixture (called Gunite in its finished state) through an air-locking device and hose to the nozzle, where water is automatically added, and by the aid of compressed air the Gunite is sprayed in a perfectly hydrated state on the surface to be coated.

The machine consists of two chambers, an upper and a lower, at the top of each of which is placed a bell valve operated by separate hand levers. These two chambers are kept in equilibrium through their respective valve connections with the main pipe. At the bottom of the lower chamber is located a feed wheel, keyed to a vertical shaft, which in turn is keyed to, and driven by, a bronze worm gear by means of a worm attached to the horizontal shaft of a small air motor. As this wheel revolves its individual pockets are brought in front of a valve, and an additional jet of air, on passing through a special opening, located immediately above that valve, causes the material in the pockets to be blown out through the latter and thence through the hose to the nozzle or point of application, where the hydration is accomplished.

The "Cement Gun" will thus be seen to be a pneumatically operated machine dependent on the flow of air to accomplish the desired results. This ensures not only the conveyance of the material to the nozzle, which may be located at considerable distance and elevation from the machine, but also the further additional and beneficial result of having the material propelled by this pressure against the surface to be covered, insuring a permanency and density far in excess of any other method. This also means the elimination of heavy and expensive forms, for the material builds up against the backing to a considerable thickness without losing its hight quality. In operating, the material is first mixed dry and placed in the upper chambers of the machine, from which it travels in consecutive stages to the lower chamber and thence through the hose to the nozzle. It is well to bear in mind that a normal percentage of moisture in the sand (4 to 6 per cent.) is advantageous, as otherwise there is too great a tendency of the sand and cement particles to be segregated. The water is introduced through the walls of the nozzle in needle jets under higher pressure than the air, thereby causing these jets to puncture this stream of flowing material. The action of the air in the main hose causes the water from these jets to become atomised, resulting in the covering of all the particles with this fine spray. When this hydrated material is impelled against the surface to be coated the first effect is to cause a very marked rejection of material, which examination has shown, is sand only, showing that the cement has adhered to the surface, forming a film of neat cement which acts as a matrix. When this matrix assumes a perceptible thickness the sand finds a seat, and the quantity of rejected material decreases considerably. There continues, however, a certain amount of rejection of this inert material, each grain of which has performed the function of acting as a tamper to drive the preceding grains deeper into the matrix in which they are seated. The result of this pounding action is to produce a very dense, hard and durable mortar.

HOUSE BEFORE "CEMENT GUN" TREATMENT.

The "Cement Gun" has a great many applications in architectural and engineering work and has been used very extensively in the construction of houses, not only for manufacturing and machine-shop purposes, but also for cottages and buildings. Walls for cottages constructed by shooting Gunite over a layer of reinforcing mesh backed by a sheet of tar felt (both attached to wood framing) are "shot" to a thickness of 1 in. Walls for factory or commercial buildings over a steel or wooden framing, with panels of as large area as 150 sq. ft., are shot to a thickness of 2 in.

The machine is also particularly well adapted to restoring and preserving masonry structures. Due to the method of its application under pressure, and to the fact that hydration takes place at the nozzle coincidently with the deposit, a very dense and impervious mortar is produced. Due also to the fact that the first impact of the material produces a rebound of sand we have the deposit of a matrix of neat cement, which fills every pore of the surface into which the following particles are embedded.

Very successful tests with regard to modulus of elasticity, compression, adhesion, tension, absorption, permeability, etc., of "Gunite" have been carried out in the United States. Full particulars of the "Cement-Gun" may be obtained from the Ingersoll Rand Co., of 165, Queen Victoria Street, E.C.

"CEMENT GUN" IN OPERATION.

Town Development and Housing

Bo'ness.

The Scottish Board of Health have approved two sites for housing subject to certain reservations.

Chertsey.

Chertsey Council has accepted tenders for fifty houses at Addlestone at £849 to £1,003.

Abersychan.

The Council's plans for 122 new houses in Manor Road, Abersychan, and 250 at Garndiffaith have been approved.

Epping.

Epping Guardians have not received a single reply to advertisements asking builders to tender for the erection of houses.

Arclid.

Arclid (Chertsey) Rural Council has decided to erect 100 concrete houses in various townships at a cost of £650 per house.

Lichfield.

Lichfield R.C. have decided to enter into an agreement for the erection of 276 houses, as follows: Type A (non-parlour), £778; type B (parlour), from £839 13s. to £848 per house, a total of over £250,000.

Redditch.

No tenders have been received by the Urban Council for the building of forty-eight houses. The Council are now considering the desirability of building the houses by direct labour.

Hatfield.

The new houses to be built in the garden city situated between Hatfield and Welwyn will cost about £900 each to build. It is expected that the rent will be about £35 a year.

Architect's Appointment.

Mr. A. B. Linford has been appointed by the Hemsworth Rural Council as architect for their housing scheme at Little Houghton. The scheme is an extensive one comprising about 300 houses.

Rutherglen.

The Council have resolved to arrange for a conference of Scottish local authorities to urge the Board to withdraw their limitation to the height of ceilings of 8 ft. 6 in., and permit of houses being erected with ceilings of 9 ft. 6 in.

Tiverton.

Tiverton T.C. has accepted a tender to build twenty-two houses at £681 per house, on a part-concrete system. Six are to be without parlours; the difference in price between the parlour and non-parlour houses was about £70.

Bungay.

The tenders received for twenty houses, including baths, fencing, water supply, and drainage were: tender No. 1, £20,367; tender No. 2, £20,622. The tenders were submitted to the Ministry of Health for approval.

£1,000,000 Garden City.

One million pounds is to be spent on the development of 646 acres as a garden city on the outskirts of Guildford. The Ministry of Health has given its consent to the scheme on condition that 200 houses are built within eighteen months.

Ferryden.

The Brechin District Committee have decided to proceed with a scheme of thirty houses for Ferryden. The cost for three-roomed houses made of brick would be £800 each. Two-roomed houses would cost £650. These houses would be with ceiling nine feet from the ground, six inches more than the Board of Health regulation.

Wakefield.

Sixty-four houses on the Elm Tree Street Estate, Belle Vue, are nearly ready for occupation. They have cost about £800 each.

Lancaster.

Lancaster Corporation has decided to erect 600 houses at a cost of £793 each, exclusive of site and street-making, providing the Government find the money required. The Council have made an amicable arrangement with the local builders.

Wombwell.

In connection with their housing scheme, the Council are investigating the possibility of acquiring Parkhills Brickworks, lying on the Darfield side of the township, adjoining the Great Central Railway. The brickworks have been idle for the past fifteen years.

Kirkintilloch.

Kirkintilloch housing scheme provides for the erection of 200 houses, and the provisional approval of the Board of Health has now been obtained. It has been resolved to proceed with a portion of the scheme in the first instance embracing some 35 houses.

Financial Assistance for Scottish Municipal Housing Schemes.

Regulations have just been issued by the Scottish Board of Health with regard to the amount to be paid and the conditions under which financial assistance will be given to local authorities in respect of approved housing schemes.

Norwood.

Lambeth Council have modified their scheme for the erection of 138 houses and flats at West Norwood, for which a tender of £121,000 was accepted. The London Housing Board have told the Council that the cost is in excess of the limit fixed by the Ministry of Health. The new scheme will reduce the cost by £90 per house.

Greenock.

Greenock Corporation has decided to accept the lowest offer for the erection of houses in the Bridgend district of the town at £900 each. The scheme comprises 114 houses of the semi-detached cottage type and of three and four apartments. The Corporation decided to send a deputation to view houses in the vicinity of Linlithgow that have been erected at a cost of £415 each.

New Houses by Summer.

The coming summer will see a large number of houses actually built, and the Ministry of Health will have justified its position, declared Sir Tudor Walters at a meeting at the Surveyors' Institute. Tenders which were being accepted and the arrangements which were being made meant that very soon definite contracts would have been placed for 100,000 houses, which he hoped would be ready for habitation quickly.

Dumbarton.

The total number of houses to be provided is 500, and these will probably cost half a million sterling to complete. So far the T. C. have compulsorily acquired one site on the lands at Silvertonhill. Further sites near the Leven are in contemplation. Part of the lay-out plans and various type plans for the houses have been approved by the Board of Health, and offers are now being taken for the first section, which consists of 26 houses. It is intended to erect sixteen houses of three apartments, eight of four apartments, and two of five apartments. Each house has a separate bathroom, scullery, pantry, and coal cellar within doors. It is hoped to have fifty houses ready before the end of this year.

Housing Progress.

Answering questions on housing, Dr. Addison said he had no detailed information of the progress made during February on the 26,186 houses of which the tenders had been approved by the end of January. He had only information up to the present as to the stages of work on 9,354 houses, of which 777 had been completed. The number of houses approved by his Department to the end of February was 59,754.

Oldham.

The Housing Commissioners have suggested that Oldham should reduce the number of types of houses from forty-three or forty-five to twelve. If that was agreed to it would save a considerable amount of money, and would meet with the approval of the Commissioners. If the committee adhered to the original idea of forty-five types of houses the Ministry would oppose the plans. If the suggestion was accepted the plans would be at once accepted and stamped by the Ministry.

Birmingham.

Birmingham Trades Council have adopted a resolution asking all members belonging to the building trade unions to take determined action in regard to the building of factories, public-houses, or cinemas after finishing works now in progress, and that they refuse to work on any buildings other than those to provide housing accommodation for their fellow trade unionists and ex-service men, and that the Trades Council should give every assistance and support to further that object.

Lancashire.

As an example of the speed with which housing contracts can be dealt with, it is interesting to note that a certain large industrial concern in Lancashire approached the Economic Building Corporation, Ltd., on February 24 with regard to the erection of a large number of houses on garden village lines for their workers, a decision was arrived at on February 27, and the Corporation's surveyors left London shortly after. The work is now under way and is expected to be completed this year.

R.I.B.A. Exhibition of Town Plans and Lay-Out Schemes.

The town plans and lay-out schemes which have been prepared under the Housing Acts, and which were a prominent feature of the recent exhibition at Olympia, are now on view at the R.I.B.A. Galleries. These drawings have been contributed by architects from all parts of the country, and some fifty important schemes are included. The exhibition, which is being held at the suggestion of Professor S. D. Adshead, is open daily from 10 a.m. to 6 p.m., and shows the work that has actually been done in a large number of centres.

The Week's News

Peterborough Cathedral.

A scheme is afoot for the restoration of Peterborough Cathedral at a cost of £25,000.

Hospital at Nelson.

The sum of £50,000, the estimated cost of erecting a war memorial hospital at Nelson, is practically assured.

Surrey Freemasons' War Memorial.

Surrey Freemasons have decided to erect a Masonic Temple as a memorial to Surrey members who fell in the war.

Lambeth County Court.

Plans have been prepared for a new county court for Lambeth. The building will be erected in Cleaver Street, on the Duchy of Cornwall Estate, at Kennington Cross.

Holborn-Strand Improvement Scheme.

The L.C.C. report that the Holborn-Strand improvement scheme cost five millions. Sales of land have brought in about four millions, so that the net cost of this scheme has been about one million.

Bruges Obelisk.

The City of Bruges has offered a site and £5,000 to inaugurate a fund for the erection of a commemorative obelisk 30 yards from the spot where our ships blocked the canal.

Essex School of Building.

To train ex-Service men as builders a school of instruction is to be started near Hornchurch, Essex, where, under a Government housing scheme, the first house will be started in a few days. Skilled ex-Service men will be employed to instruct the unskilled.

Building Trade Wages Advance.

As a result of negotiations, the following advances have been conceded to the building trade operatives in Evesham: Craftsmen, 1s. 6d. to 1s. 8d. per hour; painters, 1s. 5d. to 1s. 7d. per hour; and labourers, 1s. 3d. to 1s. 4d. per hour, the advances to commence on March 28. These advances apply to the district within a ten-miles radius of Evesham.

University of London.

The Senate of the University of London, acting on the recommendation of the Council of the R.I.B.A., have appointed Mr. Paul Waterhouse, M.A., Oxon., F.R.I.B.A., and Mr. Arthur Keen, F.R.I.B.A., to be members of the Architectural Education Committee of the University of London for the year commencing March 1, 1920.

University of London Memorial.

A proposal is on foot to erect a memorial to those members of the University of London O.T.C. who fell in the war. It is proposed to erect a memorial in London in connection with the University, while a supplementary memorial is to take the form of a hall at the Corps' standing camp near Princes Risborough, Buckinghamshire. It is estimated that £30,000 will be required for the complete scheme.

Supply of Building Materials.

The Housing Sub-Committee of the Bradford Health Committee have recommended the City Council to support the action of the Hull City Council in the passing of the following resolution on the subject of the prices and supply of building materials: "That owing to the disastrous cost of house-building schemes, caused by the abnormally high prices of building materials, this Council respectfully urges His Majesty's Government immediately to institute an inquiry into the origin of these abnormal prices with a view to securing their abatement where possible." Instructions were given for copies of the resolution to be sent to the Prime Minister, the Minister of Health, and the city members of Parliament.

Dilution of Labour.

The Executive Council of the Amalgamated Society of Carpenters and Joiners states that employers and workmen representing the industry on the Building Trades Resettlement Committee consider that dilution is impracticable, and in view of the opinion of practical builders, the Executive hopes the statement of the Prime Minister will be treated "with the contempt it deserves."

Industrial League and Council.

The Industrial League and Council have removed into more commodious premises at 82, Victoria Street, S.W.1. The leaders and pioneers of the movement recently assembled to officiate at the opening of the new premises. The Rt. Hon. G. H. Roberts, M.P., and the Rt. Hon. J. H. Whitley, M.P., the joint Presidents of the League, in conjunction with the Bishop of Birmingham, who is President of the Birmingham branch, received the guests.

Swedish Timber.

In a review of the Swedish timber situation, "Svensk Handelstidningen" says that the market is characterised by great firmness. Sales are proceeding normally, whilst prices show a tendency towards a general rise Deals are concluded daily with Great Britain. Trade with France, Spain, Holland, and South America is also active, whilst Denmark and Germany have not yet entered the market. Up to the present the sales from the entire country amount to 325,000 to 350,000 standards.—Reuter's Trade Service.

The Assistants' Union.

A large number of new members joined the Architects' and Surveyors' Assistants Professional Union (Manchester branch) at a meeting held in the Milton Hall, and presided over by Mr. Paul Ogden. The meeting passed a resolution urging upon "the Metropolitan Executive Committee the immediate necessity of improvement of the status and salary of architects, surveyors, and technical assistants as the primary object of the union," and calling for a more energetic propaganda throughout the country.

Production Committees.

The Ministry of Health have just issued a General Housing Memorandum (No. 22), setting forth the necessity for the creation by local authorities of special housing committees (to be called Production Committees) for the purpose of dealing with difficulties affecting labour, materials, and transport for housing. It is suggested that a Production Committee should consist of five or nine members—in the latter case of (1) the chairman and four members to be appointed by the local authority from among their own members, and (2) two members to be appointed to represent the employers, and two the operatives in the building industry. It is understood that the Industrial Council for the Building Industry would be prepared to nominate the representatives in the second category. The Employers' Secretary is Mr. A. G. White, 8, Bedford Square, London, W.C.1., and the Operatives' Secretary, Mr. W. Bradshaw, 17, Union Street, Ardwick Green, Manchester. The Ministry have appointed to the staff of each Housing Commissioner a Production Officer and a Transport Officer, who will keep in touch with all local housing schemes.

Competition News

Batley.

Lay-out of Commercial Street and Ward's Hill as Shopping Centre. Premiums £100, £75 and £50. Apply, Mr. H. L. Hall, borough engineer, Town Hall. Closing date April 30.

Bradford-on-Avon.

War memorial. Cost, excluding lettering, not to exceed £400. Premium 2 guineas. Particulars from Mr. J. Compton, Westbury House, Bradford-on-Avon. Closing date May 8.

Crouch End.

War memorial at Cottage Hospital, Park Road. Premiums 30 guineas, 20 guineas and 10 guineas. Apply Mr. E. O. Whitehead, 12, Elder Avenue, Crouch End, N.6. Closing date April 20.

Lockerbie.

War Memorial. Fund available £2,000 exclusive of roll of honour, architects' fees and outlays. Particulars from Mr. D. M'Jerrow, Town Clerk. Closing date June 30.

Sheffield.

War Memorial Halls. Assessors, Sir Aston Webb, K.C.V.O., P.R.A., and Mr. F. E. P. Edwards, F.R.I.B.A. Premiums £250, £150 and £100. Apply Mr. W. E. Hart, Town Clerk. Designs by July 31.

Houghton-le-Spring Secondary School.

The conditions of this competition have been amended, and are now in accordance with the Regulations of the Royal Institute of British Architects and of the Society of Architects.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended March 6 numbered 96. The total number of schemes submitted by local authorities and public utility societies is now 9,049, comprising about 63,000 acres. The schemes approved now number 5,002 and comprise about 41,250 acres.

One hundred lay-out schemes were submitted and 100 approved during the week, bringing the total number of lay-outs submitted to 2,992 and the number approved to 2,413.

House-plans representing 6,240 houses were submitted during the week, and plans for 6,827 houses approved. The total number of houses represented in all the plans now submitted is 144,804, and in the plans approved 131,146.

During the week tenders were submitted for 5,977 houses. Tenders for 5,173 were approved, bringing the total number of houses in tenders submitted to 72,196, and in tenders approved to 65,296.

By the end of February, plans had been approved by local authorities in England and Wales for the construction of 1,722 houses to qualify for the subsidy offered by the Government to private persons. These houses will be erected in 196 districts. The most active districts are Hendon (178 houses), Seaton Delaval, in the Northumberland mining district (143 houses), and Croydon (122 houses). Plans for 106 houses have been approved in the London County Council area. Three-bedroom houses number 1,475 and constitute the majority; the four-bedroom houses number 210, and the two-bedroom houses 37. The total grant to which the builders of these houses will be entitled is £267,457, an average of £155 a house.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of sue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR	
ccavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
ibourer, 1s. 8d. per hour.	
avvy, 1s. 8d. per hour.	
mberman, 1s. 9d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
affolder, 1s 9d. per hour.	In stiff clay, add 50 per cent.
atchman, 6s. 6d. per shift.	In underpinning, add 120 per cent.
	In rock, including blasting, add 225 per cent.
roken brick or stone, 2 in., 7s. per yd.	If basketed out, add 80 per cent. to 150 per cent.
ames ballast, 17s. per yd.	Headings, including timbering, add 400 per cent.
t Gravel, 17s. 6d. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
t sand, 18s. 9d. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
ashed sand; 20s. per yd.	Planking, 5½d. per ft. sup.
reened ballast or gravel, add 10 per cent. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
inker, breeze, etc., prices according to locality.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 2s. per yd. sup.
rtland cement, 79s. per ton.	Do. 6 in. thick, 2s. 9d. per yd. sup.
o. in small lots, ex London stock, 100s. per ton.	Puddling, 30s. per yd. cube.
as lime, 64s. per ton.	Cement concrete, 4.2.1, 53s. per yd. cube.
cks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. 6.2.1, 49s. 9d. per yd. cube.
ransport hire per day:	Do. in upper floors, add 12½ per cent.
Cart and horse, 26s.	Do. in ferro concrete work, add 20 per cent.
3-ton motor lorry, £6 10s.	Do. in underpinning, add 50 per cent.
Steam lorry, 5-ton, £7.	Lias lime concrete 41s. 3d. per yd. cube.
Trailer, 30s.	Breeze concrete, 26s. per yd. cube.
Steam roller, £4 10s.	Do. in lintols, etc., 4s. 9d. per ft. cube.
Water cart, 30s.	
RAINER.	
bourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
mberman, 1s. 9d. per hour.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in. 15s., 9-in. 26s. per ft.
icklayer, 1s. 11½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
umber, 2s. per hour.	
atchman, 6s. 6d. per shift.	
oneware pipes, tested quality, 4-in. 3s., 6-in. 1s. 9d., 9-in. 7s. 11d. per yd.	
st iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
rtland cement and sand, see Excavator above.	
ad for caulking, 63s. per cwt.	
sket, 1s. 9d. per lb.	
ICKLAYER.	
icklayers, 1s. 11½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
bourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
affolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
ndon stocks, 84s. 6d. per M.	Do. circular on plan, add 12½ per cent. per rod.
ettons, 75s. per M.	Facings, fair, 3d. per ft. sup. extra.
affordshire blue, 220s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
	Do. picked stocks, 6d. per ft. sup. extra.
rebricks, 2½ in., 223s. per M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
azed, salt, white, and ory stretchers, £25 per M.	Struck pointing, 4d. per ft. sup. extra.
	Tuck pointing, 10½d. per ft. sup. extra.
	Weather pointing, 4d. per ft. sup. extra.
headers, £24 10s. per M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
	Do. 1½-in., 5s. 10d. per yd. sup.
	Do. 2-in., 7s. 6d. per yd. sup.
lours, extra, 130s. per M.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
conds, less, £1 per M.	Asphalte damp course, ½-in., 1s. 2d. per ft. sup.
ment and sand, see Excavator above.	Do. vertical, 1s. 6d. per ft. sup.
ne, grey stone, 62s. per on.	Slate damp course, 1s. 10d. per ft. sup.
xed lime mortar 26s. per yd.	Asphalte paving in two thicknesses, ¾-in., 10s. 9d. per yd.
mp course, in rolls of 4½ in. 4s., 9 in. 7s. 3d., 14 in. 10s. 9d., 18 in. 14s. per roll.	Do. skirting, 6-in., 1s. 5d. per yd.
ASON (INCLUDING SLATE).	
ason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 3½d. per ft. cube.
fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
bourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
affolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
rtland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
	Joints, arch, 2s. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. per ft. sup.
	Do. do. circular, 2s. 8d. per ft. sup.
th stone, 3s. 1d. per ft. cube.	Circular-circular work, 10s. 3d. per ft. sup.
nsfield red, 7s. 6d.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
sual trade extras for arge blocks.)	Do. circular, 10½d. per ft. run
	Half sawing, 9d. per ft. sup.
rk paving, av. 2½ in. 8s. 6d. per ft. sup.	Add to the foregoing prices if in York stone 35 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 78s., Countess 86s., Duchess 95s. per square.
Tiler, 1s. 11½d. per hour.	
Scaffolder, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 145s. per square.
Labourer, 1s. 8d. per hour.	Delabole do. 90s. per square.
N.B.—Tiling is often "Piecework."	Add, if vertical, 5s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £16 10s., Countess £30 15s., Duchess £46 2s. 6d.	Double course at eaves, 11d. per ft. approx.
	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 92s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 85s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 56s. 6d. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 126s. per M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large 254s. per ton. Peggies 194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 15s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel: 1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or 1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Centering for concrete, etc., including horsing and striking, 93s. per sq.
	Slate battening, 29s. per sq.
	1-in. deal gutter board on firring, 108s. per sq.
	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Do. F.E., 3rd and U/S. £58.	Do. do. do. 1½-in. 3s 3d. per ft. sup.
	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Battens, 3rd and U/S. £51.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	If in oak multiply 6 times.
	If in mahogany multiply 6 times.
	If in teak multiply 7½ times.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d., 1¼-in. 16s. per yd. sup., average.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	Staircase work, deal: 1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup. 2-in. deal strings, fixed, 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup. of 1 in.	
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 87s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 6d. per ft.
	Do. ¾-in., 3s. 2d. per ft.
Lead, milled sheet, 65s. per cwt.	Do. 1-in., 3s. 8d. per ft.
Do. Drawn pipes, 65s. 6d. per cwt.	Do. 1¼-in., 4s. 3d. per ft.
Do. soil pipe, 70s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. 3d. per ft.
Do. scrap, 33s. per cwt.	Do. 3-in., 12s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 17s. per ft.
Solder, plumbers, 1s. 9d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Do. fine, 2s. 6d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. 5d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 1s. 10d. per ft.
	Do. O.G., 4-in., 2s. 1d. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
Gutter, 4-in. H.R. 3s. 2d., 4-in. O.G. 3s. 6d. per yd.	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each. Baths only, with all joints, 37s. 6d. each. Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6½d. per ft.	
Linseed oil putty, 37s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 8d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on but not including lathing, any of fore-going, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 65s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. fine, 66s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
Plaster, 74s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 75s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 120s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
Do. boiled, 12s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 19s. per gal.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
Petrifying liquid, 4s. 3d. per gall.	Varnishing paper, 1 coat, 14s. per piece.
Double size, 7s. per firkin.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Pumice stone, 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Hard stopping, 7½d. per lb.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £48 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £36 per ton
Brector, 1s. 10d. per hour.	Do. in compounds, £40 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £39 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buildin in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt
Cast-iron, heavy	Fixing only corrugated sheeting, including washer and driving screws, 1s. 5d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including stu or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 2s. 10d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 4s. 7d. p yd. sup.
Do. corrugated, 6s. 3d. per yd. sup.	Do. do. corrugated, 8s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in pla colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Hanging only metal casements in, but not includi wood frames, 5s. 6d. each.
Do. in metal frames, 3s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft. su
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £23 10s. red £25 10s.	Asbestos slating or tiling on, but not includi battens or boards, plain "diamond" per squa grey 66s., red 67s. 3d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the co of cement used (about 3s. to 4s. per bushel cement).
Wrought iron R.W. goods:	
R.W. gutter, 4 in., per yd. 1s. 10d.	Gutter-fixed, 1s. 4½d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	R.W.P. fixed, 1s. 9d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

Coming Events

FRIDAY, MARCH 19.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "Some Notes on the Practical Application of Reinforced Concrete," by Dr. Oscar Faber, O.B.E., D.Sc. 6 p.m.

FRIDAY, MARCH 19.

Institution of Mechanical Engineers.—General meeting at the Institution, Storey's Gate, St. James's Park, S.W. Exact data on the performance of mechanical stokers, as applied to "Lancashire" or other narrow-flued boilers; by David Brownlie, of Manchester.

FRIDAY, MARCH 19.

Architectural Association Dinner at 34 and 35, Bedford Square, at 7.45 for 8 p.m., at which the Right Hon. H. A. L. Fisher, President of the Board of Education, will be the chief guest. The President of the Royal Academy and R.I.B.A. will also be present. Tickets, price 15s. each (including wine), may be obtained from the Secretary. Early application is requested.

WEDNESDAY, MARCH 24.

Royal Society of Arts. — "Industrial Lighting in its Relation to Efficiency." By Mr. L. Gaster. 4.30 p.m.

WEDNESDAY, MARCH 24.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"The Effect of Modern Industrial Methods on Employment and Wages," by Mr. F. C. Lawrence. 7.30 p.m.

THURSDAY, MARCH 25.

The Concrete Institute, Denison House, Westminster, S.W.1.—"Steelwork in the New London County Hall" (lantern), by Mr. E. Lawrence Hall.

Publications Received

Structural Steelwork. Relating Principally to the Construction of Steel-framed Buildings. By Ernest G. Beck, Wh.Ex., Assoc.M.Inst.C.E. Price 21s. net. Longmans, Green and Co., 39, Paternoster Row, London.

Glass Manufacture. By Walter Rosenhain, B. Sc., D.Sc., F.R.S. Second Edition. Price 12s. 6d. net. Constable and Company, Ltd., 10, Orange Street, Leicester Square, W.C.2.

Calculating Diagrams for Design of Reinforced Concrete Sections. By James Williamson, A.M.I.C.E. Price 12s. net. Constable and Company, Ltd., 10, Orange Street, Leicester Square, W.C.2.

Our Small Advertisement

A number of announcements of intere to architects, builders, architects' assi tants, and others will be found in th week's small advertisements, which appe on pages xxiv and xxv.

Architectural assistants are required Blackpool; for a provincial office ne London; and by the Nottingham Ci Housing Department, who also requi a quantity surveyor and a clerk of work

The Gas Light and Coke Company ha a vacancy for a draughtsman, and anothe with knowledge of warehouse constructio is required for London.

A building clerk of works is wanted f the Salop County Land Agents' Depa ment.

A junior architectural assistant wi three years' experience of housing a domestic work desires re-engagement.

Freehold land, covering seven acr with equipped works and manager's hous is offered for sale at Hampton, Middlese A freehold building site, incorporating pair of modern villas, near Mill H Station is to be sold.

ednesday, March 24, 1920

Volume LI. No. 1316

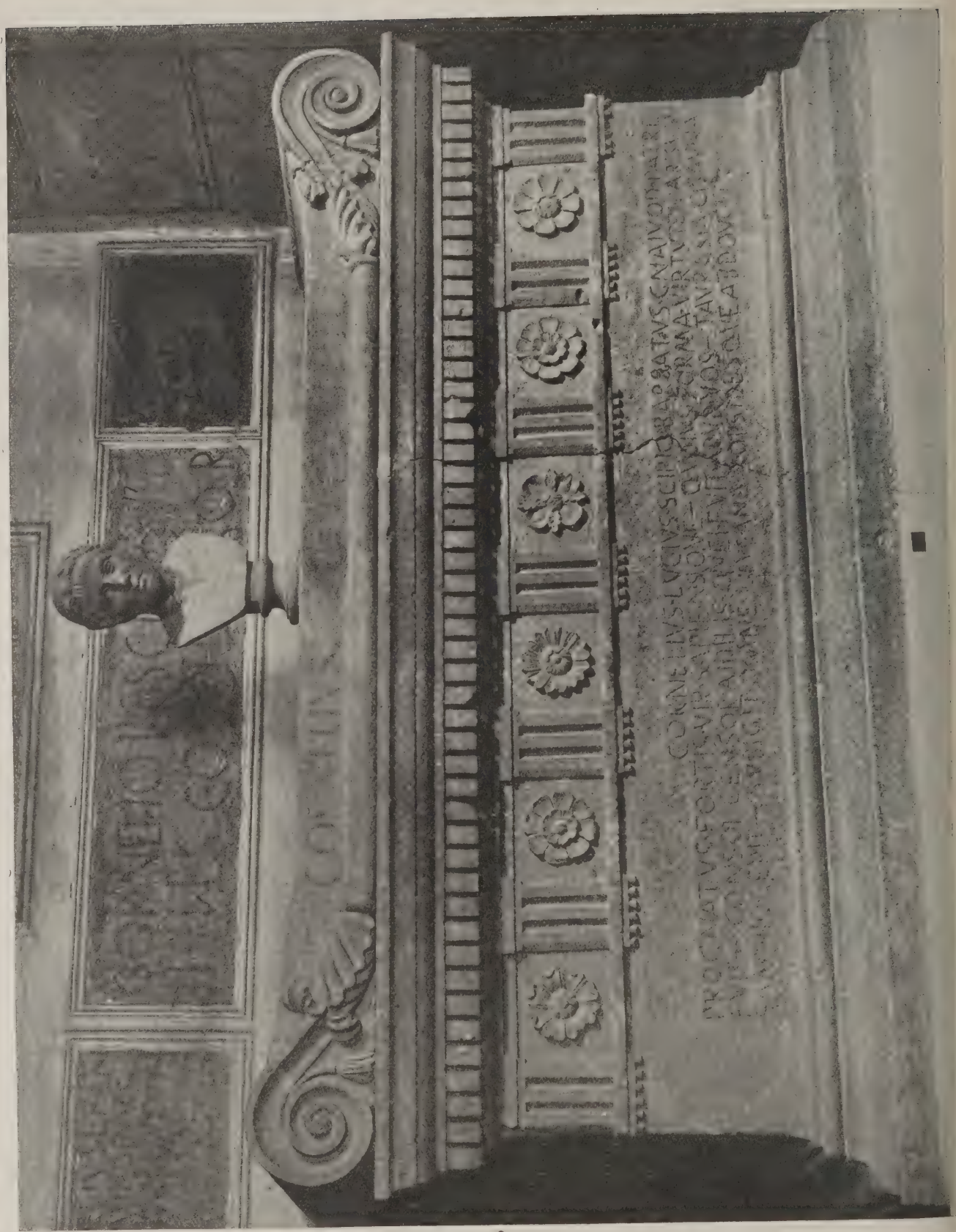
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

THE CUSTOM HOUSE, LONDON.

(From a drawing by T. Hosmer Shepherd, engraved by W. Wallis.)

27-29 Tothill Street, Westminster, S.W.1.



Architecture of the Italian Renaissance. 8.—Sarcophagus in the Vatican Museum, Rome

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
'ednesday, March 24, 1920 Volume LI. No. 1316

The Dilution of Labour

THE last five years have accustomed us to great improvisations. Men and women have been suddenly called to undertake tasks for which their previous experience in no way qualified em. The war itself is an outstanding example. At e outset, the small body of highly organised and iciently trained combatants was soon swallowed up, d it became necessary to replace it without loss of time a very much greater force. Men left the office, the ctory, the shop, the mine, the yard, and hurried to e barracks-square and parade-ground. Fingers that d driven a pen or handled a pick now found themves closing round a rifle. New movements, new ties had to be rapidly learned and undertaken. urses of training in the past spread over years were w telescoped within the period of a few weeks. Intene application of the very latest ideas and methods oduced the soldier in a period unthinkable to those on whom it fell to train the army before the war.

What was true of this great combatant force was also e of the still larger auxiliary army of workers which home was required to supply the army in the field h the munitions of war. Factories devoted to the oduction of objects desired in peace were now diverted the manufacture of arms and ammunition. The call labour was as strident and insistent as the call for ruits. All who were working: all who had worked: who were not working: all who never dreamed they uld ever work, were pressed into request in the frantic ort to keep pace with the demands which modern war-e made. Factories were reconstructed, new ones re built, old plant was scrapped, new plant installed.

Night and day the work went on. This tremendous play of energy and resource was only made possible the consent of the Trade Unions in the country. No d of labour was invaded which was not already in possession of some organised force, and invasion and the occupation was by consent. e amount of skilled labour available was irely inadequate to meet the demands upon The processes had to be revised, analysed and entangled. Those which demanded the most expert rt were fed with the labour in being. Those which into the category of semi-skilled processes were cated to those whose training, rapidly given, rapidly milated, prepared them with sufficient skill to fulfil task that became theirs.

o it went on, fighting and working, until the effort complete and victory was won. Little wonder if ense was born which has not yet died, that human acity was infinitely more adaptable than the slow cine of our peaceful occupations before the war had us to believe. If one clerk could become a soldier another a mechanic, all within the space of a few ths, what interchange of occupations might there be possible in the future days? So the dream. And the awakening.

he war being over, the tasks of reconstruction are upon us. Foremost amongst these is the task of housing—insistent, clamant, hardly less exiguous than the demands of war, it has fallen into the same hands that directed the great output of munitions. Little wonder if an effort is made to apply the same principles, and if some impatience is felt and manifested at their comparatively less successful application. Why, it is asked, should we not mobilise for building as we mobilised for munition making? Why should not the Unions agree to dilution here as they agreed to dilution there? Why should not Trade Union regulations be suspended or revised? Why should not a great army of craftsmen, produced by intensive methods, be brought into being for the purpose of housing the people of this country? Why, indeed? To the administrators, to the general public, there may appear to be no adequate reply, and, in default of it, nothing but condemnation of the Unions whose refusal to permit dilution is presented as the real obstacle to the completion of the Housing Programme.

But is there no answer? Let us examine the situation with as much detachment as possible. Mobilisation? Yes, but after mobilisation comes demobilisation. There's the rub. The workers of this country have surely seen how masses of people can be organised and trained for common effort, but they have also seen how, when that effort has been made and the purpose fulfilled for which the mass was brought into being and for which it is no longer required, it is dispersed, disintegrated into its component units, and numbers of individuals discharged from regular employment and regular pay find themselves once more dependent upon initiative and opportunity for the means of livelihood. Millions of munition workers, double time and double pay, but at the end of it all, what? The unemployment donation, termed in obloquy the "dole." Is it after all so much to be wondered at that those who guide and those who form the various bodies of organised labour in the building trades are somewhat fearful of a process which first threatens to swamp them and finally to destroy them? A year, or two, five years, perhaps ten, of prodigious effort, attracting great numbers to the industry, then to be followed by the slump, the unemployment, where the two workmen after one job find themselves at the mercy of those economic forces which, unregulated and unrestricted, beat down the standard of life, and in a few years sweep away the structure which it has taken a century to erect. That is the fear—the natural human fear of the future which, when it is applied by the exercise of thrift to the making of provision for the latter years, is hailed with satisfaction and commendation by those whose condemnation is most vehemently applied to the operation of the self-same factor when it takes the direction of refusing the dilution of labour. Security is what all want. If a farmer is to make the most of his land, secure to him that after he has put his best into it he is not removed from it. If the worker is to give you his maximum output, secure to him that that output is not in its turn to be the very means of depriving him of his livelihood.

One other consideration. After all, the men in the building trades are craftsmen, and if sometimes indi-

viduals are unmindful of that fact yet there still remains in the various bodies which form the Unions some desire to maintain the traditions of good workmanship in the craft. And how are these to be maintained if the craft is to be exercised by inexperienced and ill-trained individuals? That is not a purely selfish consideration. We may all of us be willing that the houses of other people shall be built by bricklayers and carpenters and plumbers who have not properly learned their job, but for our own houses we desire not only the best materials but the best workmanship. For munitions, things which are to be blown into atoms within a little period of their manufacture, fine workmanship may not be material, but buildings which are to remain with us for years, which are to house generations, require some skill in their erection. The Minister for Labour, revising his estimates for the buildings he requires, said that when he framed them he had hoped that public opinion would have brought large reinforcements of labour into the build industry. That expectation is apparently disappoint The only basis upon which that could be success would not be that of coercing by criticism and condem tion the action of the building operatives, but by, council and conference, inducing them to make su relaxations of the restrictions as could be shown on one hand to be necessary, and on the other hand to imperil the continued existence of the great cr Unions now federated into the National Federation Building Trades Operatives. My unshaken convict is that there is a course which can be steered which save us on the one hand from neglecting natio interests, and on the other hand from snatching fron considerable section of the people such security as af long years of painful progress they have been able achieve.

H. BARNES

Notes and Comments

Gifts of Land for Housing

TO encourage the others—but not in the cynical sense of the French phrase—the Ministry of Health has issued a list of the donors of sites for housing. At present the gifts number eighty-four, comprising a total of 234 acres. It is proverbially impolite to look a gift-horse in the mouth; but it would be mere prudence to ascertain before acceptance whether these parcels of land are worth having. There may be reasons other than philanthropic for being anxious to get rid of the growingly irksome responsibilities of a landowner. Our chief concern in the matter, however, is that proper steps should be taken to ascertain that a site is sanitary and is healthily and conveniently situated before incorporating it in a housing scheme for which it may turn out to be in some or in all respects unsuitable. In every such instance the land should be properly surveyed and tested by an architect before taking it over.

Theatre Equipment

The Playgoers' Club is agitating for more comfortable seats in the gallery. If, as Mr. Oscar Asche is reported to have suggested, an effect of producing better seats at half-a-crown would be that "the half-a-guinea stall people would want a big lounge chair or sofa," we can only trust that the Playgoers will not carry their point. But we apprehend no such disastrous effect. Surely gallery seats need never be the beggarly array of bare benches of which the Playgoers complain; they could be modestly upholstered without exciting the envy of the stalls, and without the risk of depleting the pit. In most picture theatres the seating is as democratic as one would like to see it in the theatre, where there should be no arbitrary and invidious distinctions in the matter of more or less comfortable seats. As a matter of æsthetic amenity, we should like to see theatre interiors furnished much more plainly. A heavily beplushed, bepadded, and becurtained interior is the negation of art. It is a vulgar offence against taste, and should come under the luxury tax.

Women and Statuary

The unveiling of the London monument to Nurse Cavell last week (March 17) is a very considerable addition to the small number of outdoor statues to women. Of those that were already in existence in London, the most considerable is, of course, Brock's Queen Victoria statue, with Sir Aston Webb's architectural setting, in front of Buckingham Palace. It is possible to enumerate within a very short space, as a writer in the "Da Graphic" has done, all the other London statues women. First there is Mr. A. G. Walker's gracio image of another famous nurse, Florence Nightinga which was put up five years ago near the Guar Memorial in Waterloo Place. The list includes memorial to Margaret Macdonald, in the garden Lincoln's Inn Fields; to Lady Henry Somerset, in Victoria Embankment Gardens; to Elizabeth Fry, the site of Newgate Jail; to Mrs. Siddons, on Padding Green—the statue being modelled by a Frenchman, Chavallioud, from Reynolds's picture of "The Tra Muse." Of the two statues of Queen Anne—one Westminster and the other in front of St. Paul's—i difficult to say which is the more inartistic and insign cant. The figure of Queen Elizabeth on the Church St. Dunstan-in-the-West, Fleet Street, is almost inconspicuous as that of Mary Queen of Scots ove newspaper office a few doors to the east of it. All th statues of Queens are completely eclipsed by Thor croft's magnificent group, on the north-easterly side Westminster Bridge, showing the warrior-que Boadicea in her chariot. It is the most spirited of London statues, not excepting the group by Rodin the Burghers of Calais: which, by the way, may fitly added to eke out the "Daily Graphic" write scanty list, since women are included in the ghas group.

The Lincoln Statue

When is London to have its statue of Abraham L coln? Manchester has the Barnard statue of him, the St. Gaudens statue promised for London is overd It should have been sent here and set up for American soldiers and sailors to see, from the posit we assigned it and the reverence we would have done in what high honour we hold the greatest of their Pr dents except Washington. We are now as eager as e to get it, Mr. John Drinkwater's great play of "Abrah Lincoln" having increased, if possible, our affection esteem for so nobly humane a character. Barnard perhaps a little exaggerated the gauntness of Lincol figure, which, however, lent itself easily to caricatu Here is his own description of himself: "I am in hei six feet four inches, nearly; lean in flesh, weighing, an average, one hundred and eighty pounds; dark co plexion, with coarse black hair and grey eyes." C who saw him wrote, in Lincoln's lifetime, that "unf tunately his great height makes his lankness appear be excessive, and he has by no means been studious the graces; his bearing is not attractive, and he does appear to advantage when standing or walking. Seat

viewed from the chest up, he is fine-looking." If tatuaries had shown him seated, that embittered se criticism of both statues might have been ed, or perchance accentuated. For, think of the e of John Stuart Mill in the Embankment Gardens!

Payment by Results

national conference of the Trade Unions affiliated e National Federation of General Workers, which eld at Essex Hall last Thursday, under the presi- of Mr. J. R. Clynes, decided to recommend the iple of piecework. It may be useful to record here xact words of the resolution on this point: "That conference is of opinion that the question of pay- by results, with proper safeguards, is worthy of onsideration of the trade unions affiliated to this iation." Speaking with considerable experience of ffects of piecework, we feel justified in throwing e hint that the necessity for "proper safeguards" also on the other side. Workers whose wages d on quantity are apt to disregard quality to the st extent tolerated. If, therefore, the piecework n is adopted in the building industry, the archi- the clerk of works, and the builder's foreman will to redouble their vigilance.

Academy Picture-frames

hitects will welcome the announcement that for ear's summer exhibition, and until further notice, s other than gilt frames will be admissible. One lways felt that the Academy type of frame, how- great may be the benevolent neutrality of its gold, not possibly be uniformly suitable to all types and lexions of pictures. Some are best bordered with w bands of black; some would look best in the shioned ovolo mouldings of maple-wood. Why Academy should have gone on insisting on mity year after year is in part explained we consider that exactly the right kind ame for one picture may be death to its bour; whereas gold is a lamp to lighten them hether they need it or not. And with the relaxa- f the old rule it have been thought necessary to put the caution that "frames of extravagant design our, or of unusual material, should be avoided ly to cause difficulty in arrangement." For there turist frames also!

"English Names for English Streets"

der this heading the writer of a letter in a Bristol aper protests against giving English streets and public places foreign names. We are, he says, o mispronounce them. Is not Weston-super-Mare nced Weston-super-Mayor? And Beaulieu is Buley. Moreover, he says, Ma-i-da Va-le is pro- ed Maidenveil by twelve out of thirteen "of the rian class." We never heard it called that, but ing just as bad; yet to pronounce it as the ondent would seem to advocate would be to incur as to one's sanity or good faith. Even a more ous instance than any of those cited is that of gar, in which stress is never laid on the last e, as the pendants hold that it should be. It is not ith foreign names that we are at fault. Hundreds lish names are maltreated in the same way. Who- has not heard Westminister, for example, must cloistered life. In the southerly suburb of n, the inquirer for Robsart Street would be met icuous stare, with—from a really intelligent inhabi- the counter-query whether you meant Robert

There would be less need to miscall the streets y were conspicuously labelled, as, generally ng, they certainly are not, as we have repeatedly ined. Now that the omnibus companies are up sign-posts and painting the pavements to show where their vehicles stop, the local authorities may chance to regard this enterprise as a reminder of their own neglected duty. As we have said before, every street, court, and alley, in every town, should be conspicuously labelled, with the name well illuminated at night. But it would be weak to stop short at bare necessity. In each instance the name should be accompanied by an indication of the run of the house-numbers, and the names of the branch streets right and left of the chief line. And these directions should be architecturally designed.

Aerial Surveys

Surveys taken from air-craft by means of the camera are certainly a practical proposition. Some considerable time ago—about midway of the Great War—we were able to show photographic views that clearly demonstrated the possibility of aerial surveying. Incomparably quicker than the old method, it can be accomplished already within a narrow margin of error, which will no doubt be greatly reduced as experience accumulates and improvements are effected. And the aerial plan has, of course, an enormous advantage over the drawn plan by being pictorial and lively instead of flat and dull. It is an odd thought that the land-surveyor of the future will be an airman and a photographer, and will probably be constrained to find fresh uses for his theodolite and the other paraphernalia of his profession.

Luxury Building

In the concluding article of his interesting series in the "Daily Graphic" on "Where are the New Houses?" Mr. Shaw Desmond contends that far too much labour is being absorbed in luxury building. He declared that in Manchester alone, out of its 1,000 bricklayers not more than thirty were engaged in housing. The majority were engaged in cinemas, garages, and the like. Garages are not necessarily luxury buildings. Cinemas are, and work on them should be postponed to house-building.

Artistic Designs in Industry

Who is to blame for bad design in our manufactures? The manufacturer says the public are at fault. They prefer bad designs, and the manufacturer must meet the demand. On the other hand, there is a very considerable section of the public that prefers good design but cannot get it. What, then, is to be done? In the course of a discussion of the subject at a conference of manufacturers and distributors of house fittings convened by the Society of Arts, Mr. C. Tennyson, Deputy Director of the Federation of British Industries, threw out the very practical suggestion that the manufacturer should "get in touch with an artist of good standing, originality, and common sense, and give him a good position in his factory as a sort of art director." That is very sound advice, and would secure good results provided it were adopted in the right spirit. We fear, however, that in many instances the manufacturer would want to "boss" the artist, who, if he were worth his salt, would not endure the process; while the man weak enough to stand it would simply obey misguided orders. What is the matter with British manufacturers of the old school is their headstrong obstinacy. This the Royal Society of Arts is making an earnest endeavour to overcome; while the British Institute of Industrial Art is giving every possible assistance in the campaign against the bad art which, if it continue, will tarnish the nation's industrial reputation. We cannot afford to let this happen, as it will, unless manufacturers become more sensitive to the commercial value of the art that they seem to despise. They have not yet realised what Ruskin dinned into the ears of their fathers forty years ago—that beauty has a high commercial as well as a moral and an ethical value.

The Week's News

£120,000,000 for Housing this Year

Dr. Addison has stated in the House of Commons that over £120,000,000 will be required for housing during the year. It is not at present possible to say how much of this amount will be required to be raised by housing bonds and how much will be raised by other means.

Whitby Abbey for the Nation

Whitby Abbey, which suffered irreparable damage from shell fire during the attack on the town by a German cruiser on December 16, 1914, is to be handed over to the nation. Arrangements for the transfer have been completed with the owner.

Operatives and the Housing Schemes

The Building Trades Council has invited the operatives to agree—as soon as the forty-four hour week comes into force in May—to work an extra hour above the average eight-hour day without extra overtime payment in order to show their desire to support housing schemes.

The Rome Scholarships

The final examination for the British School at Rome Scholarship and the Henry Jarvis Studentship in Architecture will be held in the rooms of the R.I.B.A. from April 19 to May 8. Information regarding these examinations may be obtained from Mr. Evelyn Shaw, Hon. General Secretary, British School at Rome, 54, Victoria Street, S.W.

Leeds War Memorial

The Leeds War Memorial Committee have decided to invite competitive designs for their projected war memorial, which is estimated to cost £100,000. Sir Reginald Blomfield, R.A., will act as consulting architect. A site in Cookridge Street has been selected for the memorial, which will be of a purely monumental character.

The A.A. Dinner

The Architectural Association held their annual dinner on Friday evening last at their premises in Bedford Square (a report of the speeches will be found on page 394). Major Maurice E. Webb, the President, had many happy things to report of the A.A., principal among which was that no fewer than 300 new members have been enrolled since the Armistice. Much interest will be aroused by Major Webb's allusion to possible development in the provinces.

L.C.C. and Cinema Building

At their last meeting the London County Council consented to the erection of several cinemas. Lieutenant-Colonel Levita said the Committee were anxious to assist the housing question; but they had not, as a matter of fact, been able to prove that a shortage of labour and material existed in the county of London. The moment they were satisfied that any building was interfering with the erection of houses the work would be suspended. Mr. G. F. Sumner stated that at Poplar, where house building was going on, they were unable to get sufficient bricklayers. There was also a shortage of material.

Sir E. L. Lutyens, R.A.

Congratulations are due to Sir Edwin Landseer Lutyens, F.R.I.B.A., on his election as Royal Academician. He is the sole instance of an architect becoming a popular idol. It is not, however, because he achieved at a bound, as the author of the Cenotaph, a public acclaim that his fine record of strongly individual work had failed to win for him, but because that record is unsurpassed either in quality or in quantity by any architect in the kingdom. Sir Edwin, who is now f three years old, was elected A.R.A. in 1913, so tha may be said to have served a seven years' apprentice to that degree.

Sending-in Day for the Royal Academ

Architects are reminded that drawings intended the Royal Academy Exhibition have to be sent i Burlington House on Friday next. This year drawings must bear the name of the draughtsma well as that of the architect. Detail drawings eligible for exhibition. It is announced that for year's Exhibition, and till further notice, frames c than gilt frames will be admissible. Frames of extr gant design or colour, or of unusual material, shoul avoided as likely to cause difficulty in arrangement

Architects and the Housing Delays

Statements have been frequently made in public architects are largely responsible for delay which occurred in getting houses built in connection State-aided schemes. The Society of Architects is th fore collecting evidence in order to demonstrate to Ministry of Health that this is not the case; and fu to show that in certain instances architects are in quately paid under the scale of charges laid dow Housing Memorandum No. 4. Architects engage carrying out State-aided housing schemes are invite communicate with the secretary of the Society of A tects, at 28, Bedford Square, W.C.1, giving information as will enable that body to present an in trovertible case to the Ministry of Health.

Specification for Timber Cottages

A standard specification for cottages of timber struction has been prepared and issued by the Min of Health for use by local authorities and public u societies in connection with State-aided Hou Schemes under Part III. of the Housing of the Wor Classes Act, 1890. Every scheme for the construc of cottages in timber which has not yet gone to ten or is not at the date of issue of this memorandum or point of going to tender, shall comply with the stan form of specification. It is drafted so as to cover va alternatives, and should be adapted to suit the parti circumstances of each scheme. The Minister will be prepared to approve schemes which show devia from the standard specification, except in so far a agrees that the deviations are desirable on accou local circumstances and conditions. The specific may be purchased from H.M. Stationery Office through any bookseller. Price 3d. net.

Protest Against Cheap Houses

A conference, representing about 100,000 buil trade operatives, held in Manchester, has decide favour of a wide extension of the Guild idea i building of working-class houses. A building guil the North-western area of England was formed, a was left to the discretion of the officials to transfo into a national body when the time appeared to be o tune. Local committees in the North-western area called upon to mobilise sufficient labour to build not f than 75,000 houses within the next two or three y This decision will be made known to the Minist Health, and presumably an opportunity will ultim be given him of either accepting or refusing a de offer to build. Strong protests were made agains attempt by the Ministry of Health to impose acceptance of a cheaper house upon local author and delegates were instructed to bring the matter b their executive committees.

(Continued on page 391. Architectural Causerie on page 3

War Memorials. 3.—Design for a War Memorial, Torquay

Sir Reginald Blomfield, R.A., Architect

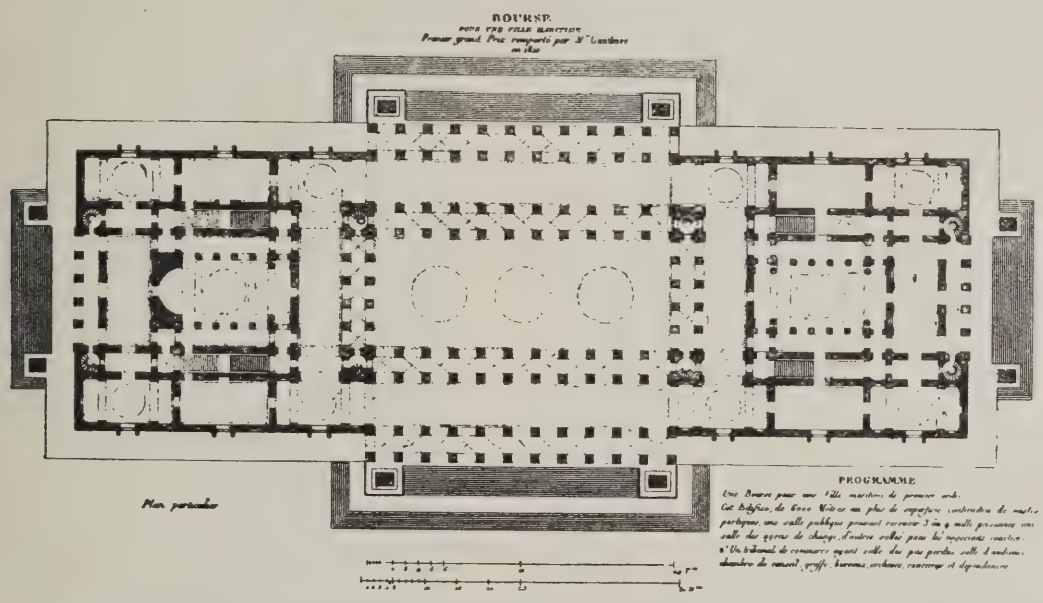
This illustration is reproduced from a fine crayon drawing by Sir Reginald Blomfield. It is suggested that the structure should be in Portland stone, with panels, wreaths, swags, and other enrichments in bronze.

The Influence of French Planning on English Architecture

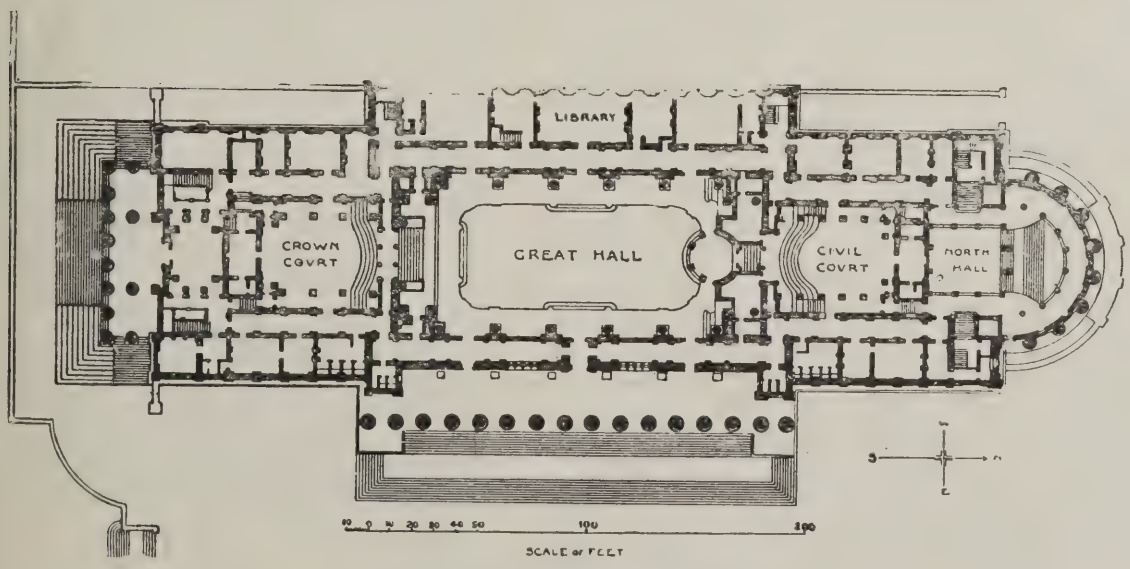
T is surprising, considering the opportunities and the vast number of old books at our disposal, how little the academic aspect of planning is appreciated. Yet a century ago the elementary nciples of building in the grand manner were eagerly cussed by architects, who for their own purposes bodied the ideas contained in the early Grand Prix igns to suit new problems.

The earliest instance of direct influence from France his connection is to be found in the architectural plans igned by Sir Christopher Wren, who was the first to cern the superior logic of contemporary planning as ctised in Paris. After Wren's death the subject for engthy period was imperfectly understood, and even ate as 1730, when Lord Burlington caused the publi-ion of Palladio's plans of the Roman baths, only a architects had perception to see the value of the k. Passing to the middle of the 18th century we e to note a book of nineteen designs and two plans Roman baths by the celebrated architect, Marie Joseph Peyre, entitled *Œuvres d'Architecture*, a second edition of which was edited by the architect's brother, A. F. Peyre, in 1812. Blondel's *Cours d'Architecture* appeared in 1771, and it is worthy of attention that Sir William Chambers was a keen follower of the doctrines expounded therein, as the disposition of Somerset House shows. Apart from the subject of French publications dealing with planning, the influence of contemporary Grand Prix designs is also apparent in English works of the period.

The Grand Prix is the highest award given by the French Government to architectural students: it carries with it free residence in Rome for five years, at the Villa Medici, and is known as the Prix de Rome. This important award for proficiency in architectural design was founded as early as the year 1666, and it had been continued with few setbacks to the period before the recent war. Some of the winning designs of the late 18th century were published between the years 1779 and 1786, and others in the years 1791-1805. In addition



GRAND PRIX DESIGN FOR A BOURSE (1810), BY MARTIN PIERRE GAUTIER.



ST. GEORGE'S HALL, LIVERPOOL.

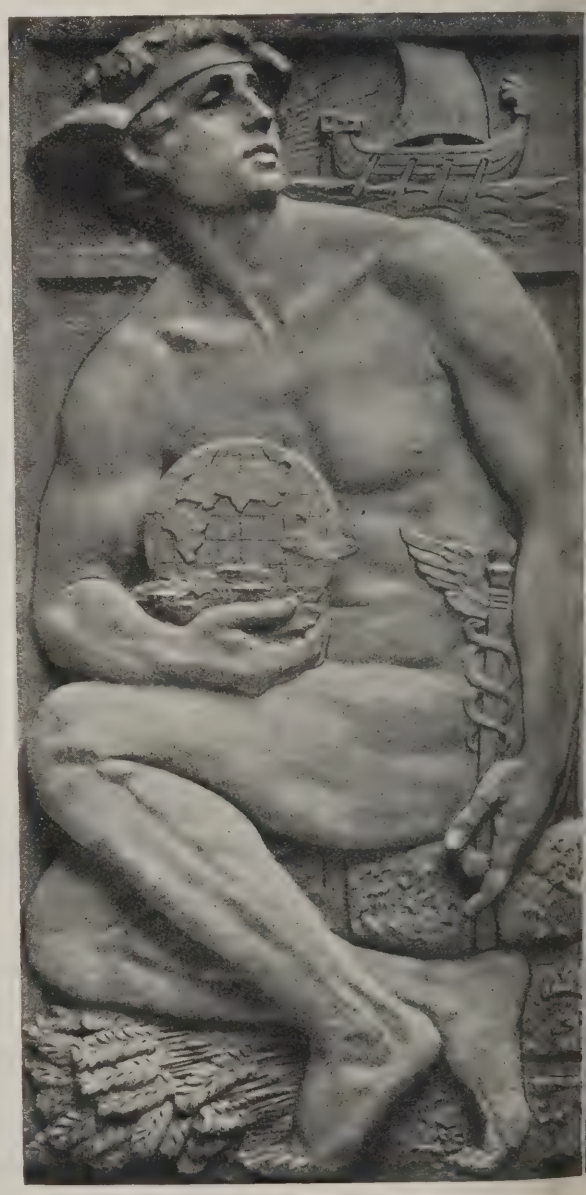
to these interesting volumes isolated examples of contemporary students' work were acquired by English architects and amateurs visiting Paris, and in time were added to the collection at the Royal Institute of British Architects. At the beginning of the 19th century Peyre's book was in demand among the élite of the profession; Sir John Soane, for example, acquired three copies for his library, and Nash and Smirke were doubtless conversant with the illustrations. Soane had no scruples regarding wholesale cribbing from this work for his Royal palace designs (now exhibited at the Soane Museum), and the plans accredited to his energy for this building should be compared with the projects for a similar subject set forth in Peyre's book. Even the versatile Nash made reference to the designs when he was commanded by George IV. to design Buckingham Palace. In the meantime much valuable information was percolating from the Parisian studios to the minds of English students—a fact substantially confirmed by a Design for a British Senate House, prepared by Thomas Lee, in 1816. (Now in the Library at the Royal Institute of British Architects.)

This design is the one which gained for Lee the gold medal of the Society of Arts in 1816. Lee was a pupil in Sir John Soane's office before transferring to David Laing, when the latter was designing the Customs House, and there cannot be any doubt about his having had access to Peyre's book. Another design evidently inspired by the early Grand Prix is the Triumphal Arch, by John Crake, dated 1830; and the Naval School, by Johnson, completes the series (all of which are in the R.I.B.A. collection). The foregoing will show the extent to which these works were known and used. That they complemented the ordinary grounding in the orders which every student had to undergo is beyond dispute; but it is not the purpose of this sketch to pursue the subject indefinitely.

The most striking instance of the value of a good planning motif to an architect engaged in the design of a great public building is to be found in the executed plans of St. George's Hall at Liverpool, by Harvey Lonsdale Elmes. During the interval between the first and second competitions, before the young architect was sent to the Continent to investigate similar works, the Grand Prix design by Martin Pierre Gautier, 1810, for a "Bourse to be Erected in a Maritime City," was brought to the notice of Elmes. Gautier won the Grand Prix when he was only twenty-one years of age with a remarkably lucid planning arrangement, the elevational treatment, notwithstanding the brilliant plan, being dull and characterless. From this design Elmes gained inspiration for arranging the intricate requirements of the Liverpool authorities, and with clever adaptations produced a building of superlative merit. Comparison should be made between Gautier's plan (see illustration) and the plans (reproduced by courtesy of Mr. Ronald P. Jones) of St. George's Hall as executed (see illustration). Professor Cockerell, whose lectures at the Royal Academy during the 'fifties made such an impression, knew the value of a knowledge of French planning. He states that when a student in Italy, preparing a design for the Duke of Wellington's mansion, he had recourse to all the books he could obtain dealing with the subject of planning. The value of precedent and the use of a motif is well stated by Sir Joshua Reynolds in the second discourse: "When the artist is once enabled to express himself with some degree of correctness he must then endeavour to collect subjects for expression; to amass a stock of ideas, to be combined and varied as occasion may require. He is now in the second period of study, in which his business is to learn all that has been known and done before his own time." From this we are not to gather that we shall find a model ready for adaptation each time a new problem presents itself, but rather that a knowledge of precedent will encourage us to undertake new works with confidence. It should also be borne in mind by the student that the early Grand Prix designs are merely studies made by students of an earlier a and that whatever attractions such plans offer they merely paper designs and not executed works. same remarks apply to the more recent plans produ by the students at the Ecole des Beaux Arts; th should not be accepted at their face value, how alluring the disposition of parts, but should be stu as individual motifs forming links in the sequenc France's great planning tradition.

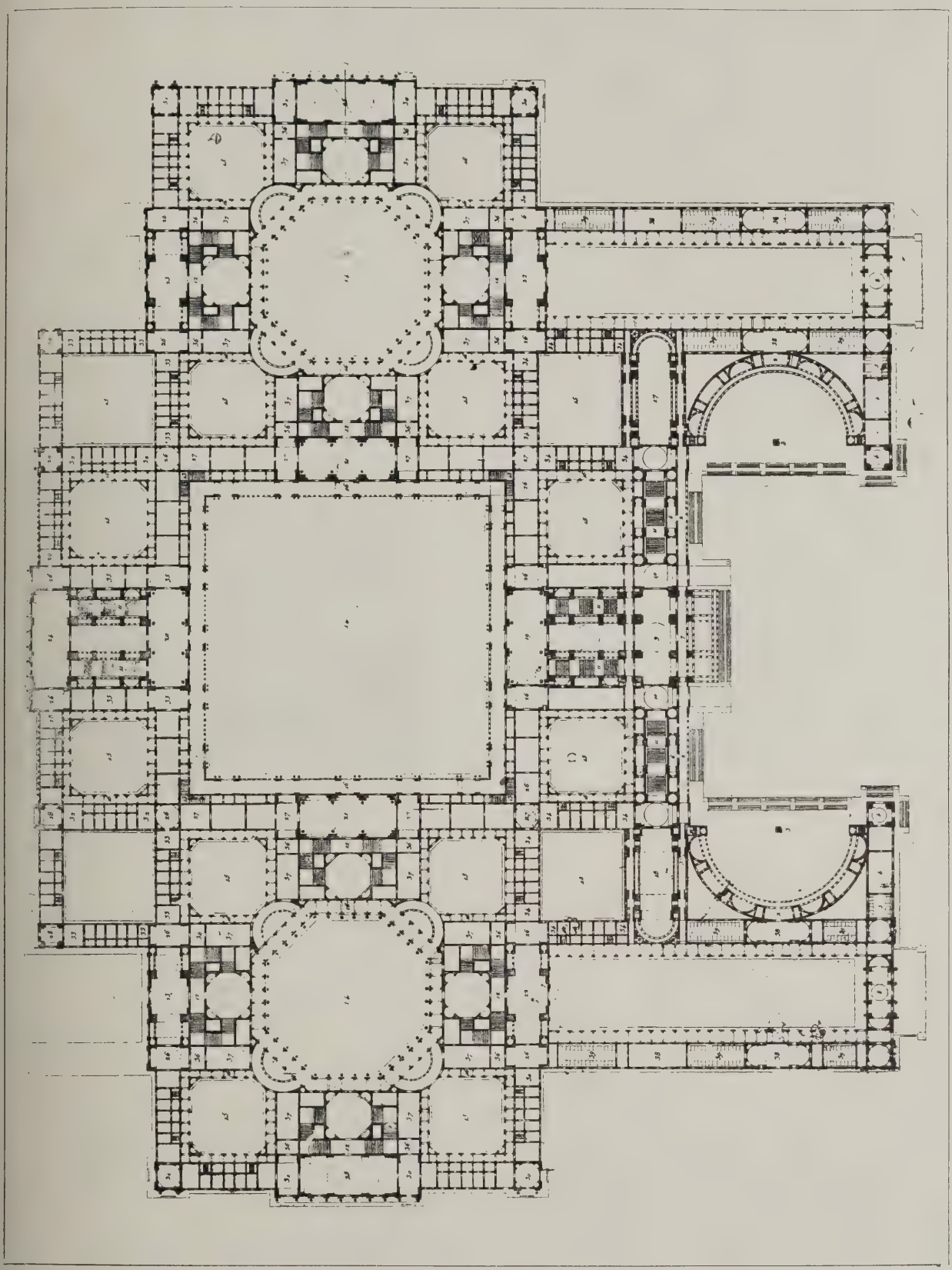
To a French architect, a plan is of far m importance than an elevation, for on the co reasoning shown in the horizontal plotting the resul spectacular effect depends. But one is convinced, a studying the best examples of French work, that French architect forms a concept of the whole prob internally and externally, directly he marshals the f set forth in the programme. In England planning grand lines is in its infancy, although considerable h way has been made in the schools to teach "reaso as the basis of design." The best examples of mo planning are to be found in contemporary Amer work. The Americans invariably adopt the spacious of the French system, but modify the whims and fash of the Beaux Arts to accord with direct needs. P conceived in this spirit are imaginative without b extravagant, as well as explicit in direct statemen fact.

A. E.



SYMBOLICAL FIGURE, "COMMERCE." L. F. ROSEL SCULPTOR.

The above figure is one of four decorating the façade of Victory House, Cockspur Street, London, recently completed from the designs of Messrs. Metcalf and Greig, Architects



This magnificent plan, belonging to a project for a huge palace prepared by an Italian architect about a hundred years ago, is a superb example of symmetrical planning in the monumental manner.

rrent Architecture. 12.—New Works for Messrs. D. Napier & Sons, Ltd., Acton, London, W.

Wallis, Gilbert, and Partners, Architects

These works demonstrate very convincingly the possibility of investing the elevations of strictly utilitarian buildings with architectural interest while meeting with the utmost efficiency all the practical requirements of good lighting. The construction of the building is described in the article on page 380.

Architectural Causerie: Back to Simplicity

ARCHITECTURAL opinion favours a return to methods of direct expression—the plain statement of facts translated into the concrete and scorning tawdry embellishments. The exigencies of the past six years prepared the way for the change in ideas, and although the attitude of the many may for the present remain passive, the time is not far distant when the creed of simplicity will be generally accepted.

* * *

There is much truth in the statement that straightforwardness in architectural expression is among the difficult things of life. In the first place, a knowledge of what constitutes simplicity in design is only gained through experience reacting to force of character in the individual, whose mind, moreover, must be competent to grasp facts complex in themselves. The lay mind is beginning to realise that an architect is something more than one who prepares scale plans for the benefit of builders and craftsmen, that the architecture, truly conceived, is, or should be, the concrete literature of a nation. What a task, therefore, lies in front of the architect, especially if he is strong enough to curb his desire to be original! Simplicity in architecture can be coaxed and encouraged, but it cannot be forced. From the general body of practitioners is demanded a wide outlook, and a rather special knowledge of the complexities of modern life. To be true interpreters in terms of building, architects must seek ceaselessly for a complete understanding of their fellows. And to this must be added, or it must include, sympathy and passion for the allied arts and crafts. Even if the future produces a few architects thus fully equipped and endowed, they will be forced to exercise untiring research, ceaseless energy, and relentless comparison, if they would advance taste.

* * *

When first we review intensively the standard and historical examples of architecture, we find the underlying idea of each and several to be extreme simplicity. Architecture, when it rises above the humdrum, takes on a character analogous to the finest prose. Hence it is that those who have developed a taste for purity, style, brilliancy of conception, and that facile scholarship never dissociated from inspired work, have no leisure and less affection for the products of fashionable mediocrity.

* * *

The term simplicity needs explaining. It is not itself quite simple. It holds a subtle meaning, and those who use it most glibly are those who are least likely to take the trouble to analyse the elusive qualities the term embraces. It should not be difficult, one would suppose, to build simply; but indeed there are many militant factors to be overcome, not the least among which is the keenness of the common appetite for novelty. Then, again, there is an appalling lack of co-operation among artists; no one has ever thought it worth while to formulate ideals with the object of raising the standard of taste. Commercial instinct appears to thrive on vulgarity. Consequently, the public estimates and accepts the architecture of the streets as the best modern expression of conventional scenery.

* * *

Simplicity in architecture does not necessarily mean undue severity, bald statement, or barrack-front vanity. Neither must we think of it in terms of the much-maligned Gower Street. The true interpretation of the word inheres in deeper channels. It has nothing in common with baldness; it is not to be found in trashy reproductions of historical buildings; it is at one with conception, style, composition and proportion. A building can be plainly simple or richly simple. Providing its mass and parts be sympathetic and harmoniously proportioned, ornament is of minor importance. Complexity in design, if handled with dexterity, has its uses too; but in the hands of the inexperienced it is a dangerous medium. Complexity is not infrequently found side by side with simplicity, the one acting as contrast and foil to the other.

* * *

Now, the foregoing is not jargon. It is an attempt to explain the differences between the plainly simple characteristics, let us say (for instance), of the brickwork of the eighteenth-century mansion and the richly simple masonry of Somerset House. Simplicity, rich simplicity and complexity, can be seen in the formal arrangement of plans as in elevations. Many recent plans of French origin, particularly those inspired by Grand Prix designs, perpetuate the error of a complexity that cannot be expressed, and that one ought not to attempt to express, in a vertical direction. On the other hand, rich simplicity in plan and elevation is the surest evidence of inspired genius. Buildings so designed—for example, St. George's Hall, Liverpool, the Pennsylvania Station at New York, or the Albert Hall at Kensington—are inimitable in their clarity of conception and explicit statement of character, as well as set conditions. The barrier separating the richly simple from the bald or the complex is so slight that only years of experience can enable the designer and the critic to determine the difference.

* * *

Architects in all countries are too prone to produce self-conscious architecture. Many faced with the interpretation of a multitude of diverse conditions, forming the parts of an intricate programme, become obsessed with the desire to express minor facts, the result being that buildings of the first magnitude lack the directness of rich simplicity and lose scale. If any rule can be laid down, it should be the golden one—the larger the building, the simpler the mass and the fewer the minor features. Experience in the United States has proved the value of the historical motif and the need for a knowledge of architectural tradition cosmopolitan in its scope. The result has been the production of a series of standardised types upon which the building vernacular of America is being formed. It may take a century of fresh experiment before the American style is carried a stage further, but the fact is undeniable that a national style is already in being.

* * *

We suffer to-day from the bad influence of experiment and fashion: there is too much paper architecture and too little real building worthy of the name. Instead of looking upon the best examples of the European tradition as a field of motifs for transposition into terms of modern civil architecture, there is a tendency in some quarters to exploit immature models of the local or native tradition.

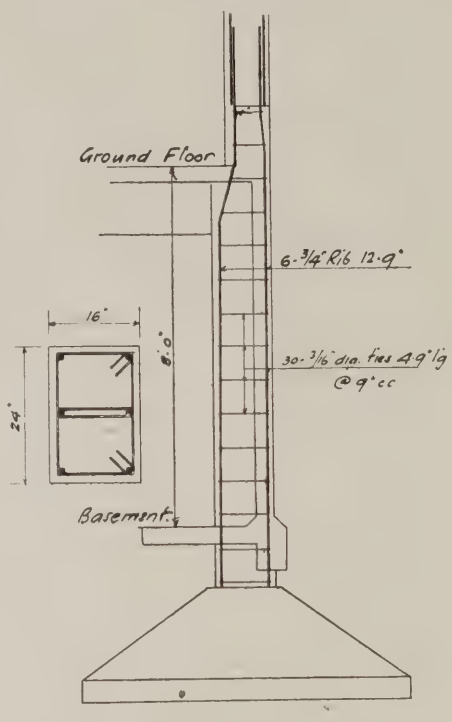
* * *

If designers were content to emulate the spirit of the best types of English work, as in the case of the domestic school, the incessant clamour for a new style would cease. Even so, the national tradition of civil architecture is not strong enough of itself to offer inspiration without reference to the treasures of other countries. What America has achieved during the past quarter of a century in the realm of design should be possible to England. American architects have, perhaps subconsciously, absorbed the English tradition. Nothing else can explain the simplicity and restraint of the magnificent buildings of civil and official character designed by the leading men. AERO.

Construction. 9.—A Reinforced Concret Factory for Motor Cars

ALTHOUGH the site at Acton was acquired by Messrs. D. Napier and Son, Ltd., as far back as 1903, and partly occupied, the factory illustrated was not designed and erected until the war. The intention of the owners was primarily to meet the demands of the Allies for aeroplanes, and ultimately to turn the factory over to the intensive production of motor cars and internal combustion engines, which has been done. The area available, about 128 ft. wide by 150 ft. long, and the great extent of additional floor space required necessitated a building four storeys high. As eventually a large number of high-speed machine tools would be installed it was essential that the structure should be of extreme rigidity.

The peculiar shape of the building with its rebated sides after the first storey was the ingenious method adopted by the architect to ensure adequate lighting, notwithstanding that the new factory was bounded on two sides by adjoining buildings. As so often happens in the London area (owing to the nature of the subsoil) the foundations presented a problem demanding very careful consideration. Concrete piles 16 in. diameter were driven in groups and in varying length, the majority being about 12 ft. These pile groups vary, according to the load, from a single pile to a maximum of seven, and each group is capped with a heavy reinforced concrete platform which acts as a base to the column. Also, owing to the proximity of a main sewer, the basement on one side of the building was totally enclosed by a reinforced concrete retaining wall. This



Typical Basement Column

basement contains the furnace for heating apparatus and coal stores.

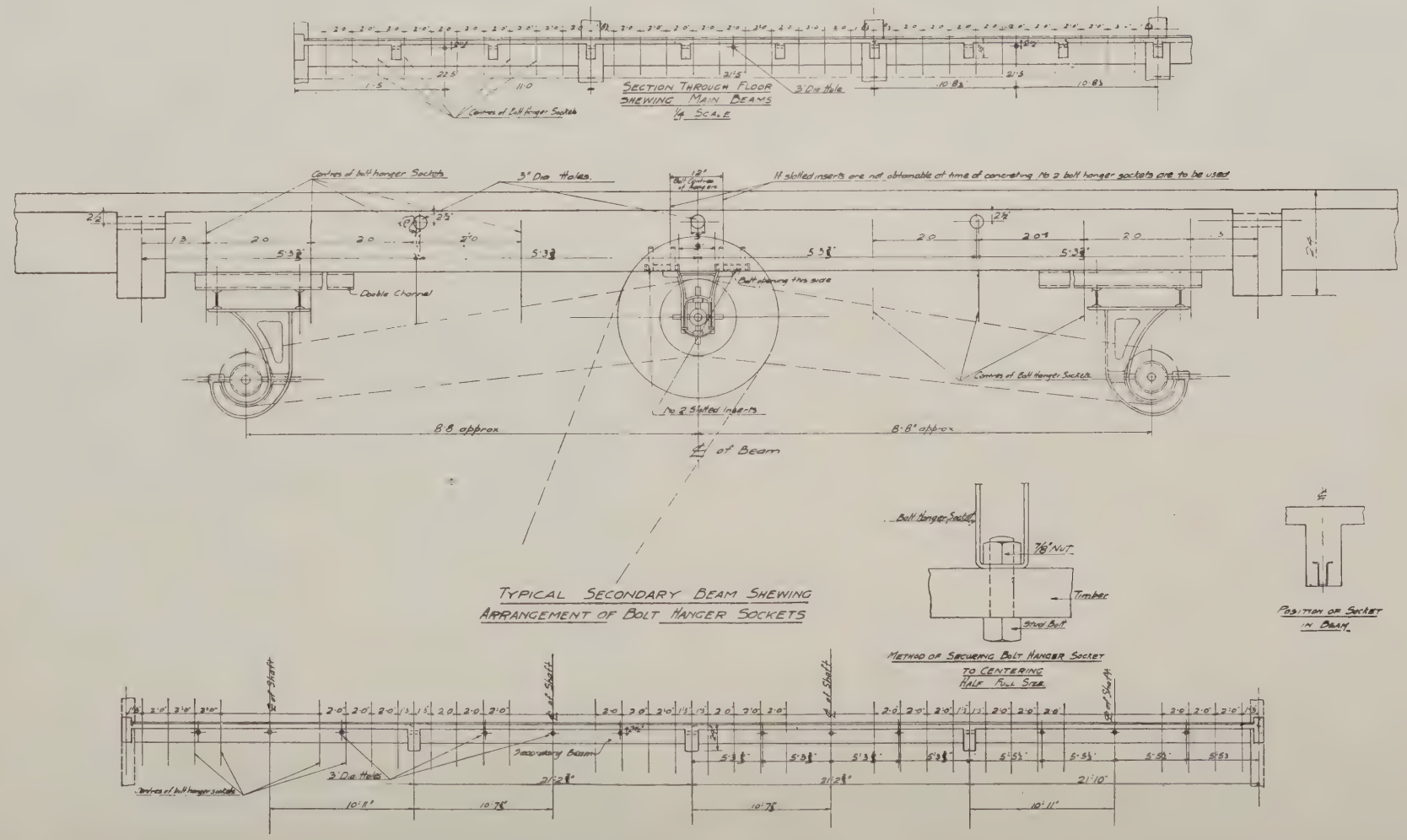
There are fifty-seven columns in 64 ft. 6 in. high from foundation cap roof. The internal columns meas 22 in. by 22 in. at ground floor to 10 in. 10 in. at the top, the external colun being 24 in. by 11 in. at the base. T building, on plan, although a parall gram, is not a rectangle, consequen there are angular corner columns. Th angle columns, both obtuse and acu measure extreme 24 in. by 24 in. by 12 at the base. All the columns are re forced with Kahn Rib bars varying fr 1 in. to ½ in., these bars being bound close centres with steel ties. The flo were designed to take a superimposed l of 2¼ cwt. per sq. ft. on the first floor 1½ cwt. on the two upper floors.

The windows, which are of steel sa extend down to the floor slab, thus ens ing adequate and well-diffused lighti the artificial lighting (equally importa has been carefully planned on the se direct principle; and the heating is on "ladder" low-pressure hot-water syst there being a radiator in front of e window. Messrs. Napier arranged that the original construction "Rigifix" slot inserts be cast in the underside of ev beam, thereby making easy the attachm of mechanical equipment at any fut time without cutting into the concr There are two sets of roomy and fast-r ning goods lifts, and also two sets

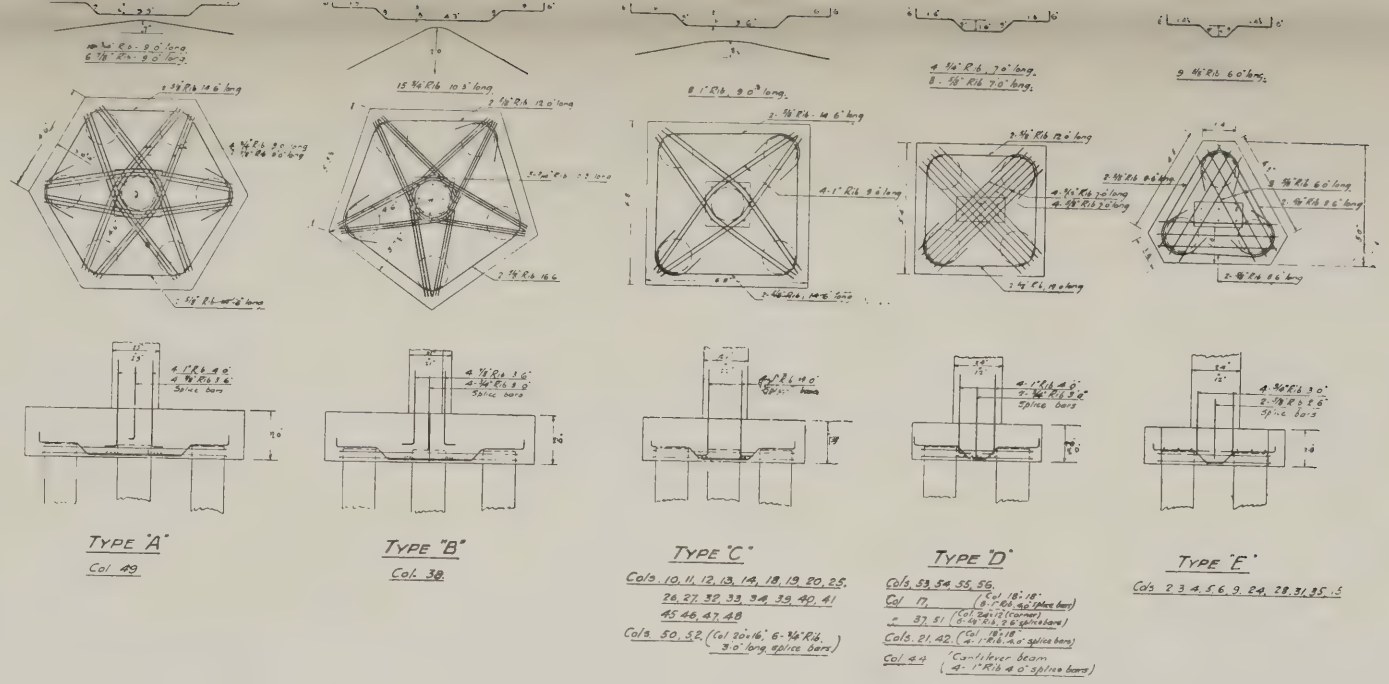
NEW WORKS FOR MESSRS. D. NAPIER AND SONS, LTD., ACTON: VIEW ON FIRST FLOOR.

Working Drawings. 6.—New Works for Messrs. D. Napier & Sons, Ltd., Acton: Details of Reinforced Concrete Beams and Pile Caps

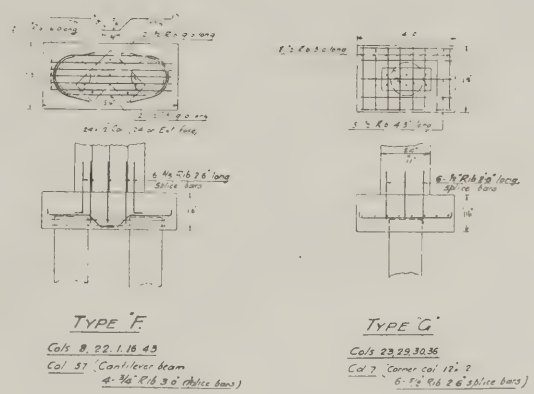
Wallis, Gilbert, and Partners, Architects



Section through floor, showing secondary beams.

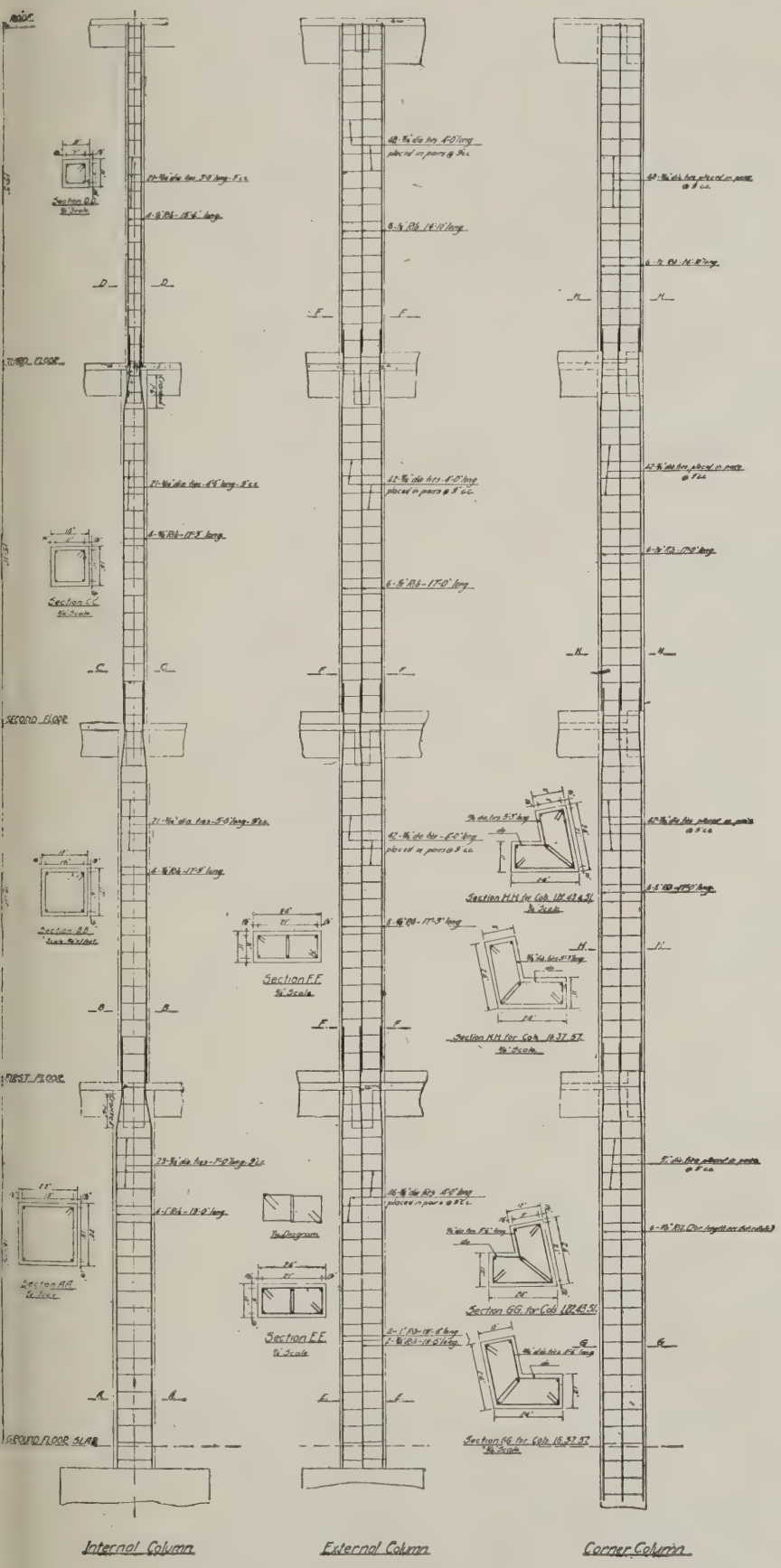


Details of Pile Caps



These drawings should be studied in conjunction with the article which appears on page 380. The construction of the shafting attachment to the secondary beams is particularly interesting.

osed fire-escape stairs. Clean, enic, and well-fitted cloakrooms and uate lavatory accommodation are pro- d for both men and women, and on floor there are drinking fountains. tractive canteens for both men and en workers, the separate messroom pprentices, the staff dining-room, and the tastefully-furnished dining-room for the directors and their guests are all conveniently arranged round one large kitchen, which in itself is an embodiment of all that is modern and best. In the two main dining-halls 800 meals can be served at one time. Notable also are rest-rooms for the women workers, first-aid wards with trained nurses in constant attendance, facilities for recreation, and organised athletic sections in which the directors and the superintendents take an active personal interest. The entire structure is in reinforced concrete, and the architects were Messrs. Wallis, Gilbert, and Partners, of London; the engineers for the reinforcement were The Trussed Concrete Steel Co., Ltd., South Kensington; and the general contractors were Messrs. Patman and Fotheringham, Ltd., Islington.



Details of Columns.

NEW WORKS FOR MESSRS. D. NAPIER AND SONS, LTD., ACTON.

Architects and the Building Trades Exhibition

By the courtesy of Mr. H. Greville Montgomery and the other directors, the following facilities are granted to members of the Society of Architects visiting the International Building Trades Exhibition at Olympia on any or each day.

Architects' Club.—The Prince's Rooms on the ground floor will be available for the whole period of the Exhibition for the use of members and their friends. Overseas architects visiting the Exhibition are invited to accept honorary membership of the club. The President and members of the Council will be present from time to time to meet the members of the Society and their friends, and the permanent officials of the Society will be in attendance every day to give information regarding the Society and its aims.

Season tickets.—Complimentary season tickets will be available for members and will be obtainable from the Society.

Social Functions.—A public luncheon, of which further notice will be given, will be held during the Exhibition in the Pillar Hall, Olympia, when leading representatives of Government Departments, the architectural and allied professions, and the building industries will be the guests of the Society.

Conferences.—The smaller Conference Hall on the balcony floor will be available for the discussion of matters of general and professional interest, and the further elucidation of the problems connected with the building industry in which architects, builders, and the public are equally interested.

It is hoped to hold an exhibition of students' work from the first Atelier of Architecture, and to demonstrate the basis upon which the system of architectural education advocated by the Society of Architects is founded.

Travelling and Hotel Arrangements.—Members who propose to attend the Exhibition will make their own arrangements for travelling and hotel accommodation. The Royal Palace Hotel, De Vere Gardens Hotel, Clarendon Hotel, and Kensington Palace Hotel are all equally accessible to Olympia. It will greatly facilitate the Society's programme if the members will, as soon as possible, inform the secretary whether they will require season tickets, and on what dates, so far as they can tell, they will be in town, so that an endeavour may be made, if possible, to suit the convenience of the majority in regard to the dates for the public luncheon and the conferences.

All communications from members on the subject should be addressed to the Secretary of the Society of Architects, 28, Bedford Square, London, W.C.1. Telephone: Museum 942. Telegrams: "Crypt, Westcent, London."

Correspondence

An Architectural Appointment.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of March 10 the Chatteris (Cambs) U.D.C. advertise over the signature of its engineer and surveyor for a temporary qualified architectural assistant, who is to be a neat and expeditious draughtsman and capable of preparing plans, specifications, and estimates under supervision. It does not go on to say how temporary, how qualified, how architectural, or how much assistant. Mr. Hipwell, however, being an engineer and surveyor, the presumption is that the gentleman appointed will have to be assistant in name and architect *in toto*, and for the magnificent salary of £150 a year, less than £3 a week. Comment is needless.

CHAS. MCLACHLAN, A.R.I.B.A.
Hon. Secretary, Architects' and Surveyors' Assistants' Professional Union.

London's Leaning Towers

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Having recently been informed by a brother architect that Bentley's campanile at Westminster is out of plumb to the extent of 3 ft., I shall be most interested to know if this statement can be confirmed by any of your readers having exact knowledge of the subject.

It was further related to me that the tower of St. Mary-le-Bow, Cheapside, had an inclination of 13 ft. from the vertical. This latter assertion, however, does not seem as if it can possibly be credited.

PISA.

House at San Paulo, Brazil

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I appreciate, the compliment which "Another F.R.I.B.A." has paid me by taking so much interest in my plan, published in your issue of February 18, for a house in San Paulo (Brazil), as is shown by his letter in your issue of March 10. Perhaps that plan did not make it clear to "Another F.R.I.B.A." that the back door (i.e., the door opening into the kitchen), the doors to the maid's bedroom and to the maid's w.c., and the larder window all open on to a space, which is not enclosed within the house, but which is an open corridor or a narrow yard, stoep, loggia, or what not, in which the "tanque" (a trough in which clothes are washed) is placed. Evidently, my plan has conveyed the impression to "Another F.R.I.B.A." that the above-mentioned doors open on to a closed-in corridor, whereas the space on to which they open is not shut off from the external air in any way, and is only enclosed on one of its longer sides by a low parapet wall in front of the "tanque." Under this misapprehension, I can easily understand "Another F.R.I.B.A." asking for an explanation."

I should further inform him that the larder is lit and ventilated by a large window which opens on to this space, and which is placed above the back of the "tanque." There is also a large open space between the doorhead of the maid's w.c. and the eaves of the roof.

The questions asked by "Another F.R.I.B.A." seem to me to be quite natural questions for him to ask. Probably he assumed that there was a closed-in corridor by which the maid passed from the kitchen to her bedroom, and did not bear in mind that the house was built in the tropics and, therefore, that it was no hardship for the maid to go out of doors to reach her bedroom or w.c. In fact, the custom in most tropical countries (Brazil included) is for the "servant's sleeping quarters" to be right away from the house. I am obliged to him for calling my attention to something which, if not clear to him, would probably not have been clear to others.

BARRY PARKER, F.R.I.B.A., M.T.P.I.

Sir Frank Baines and the Arts and Crafts

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Some very outspoken and fearless remarks were made by Sir Frank Baines when he recently addressed the manufacturers at the Ideal Homes Exhibition. He implied "that the Arts and Crafts movement was relatively of little influence in improving the standard of industrial design, since it dealt principally with handicrafts, and had left the British manufacturer unaffected; its whole tendency was to disregard the necessity of materially influencing the bulk production of commodities by the utilisation of machinery."

Some years ago I joined this movement thinking I could lift my advertising and literature to a higher plane. I spent an afternoon attending one of their meetings in which fluent speakers made witty remarks, so that I, together with an artist friend who had accompanied me, had a very happy hour. I read the literature which was sent to me, but could not digest it because it was so extraordinarily dry. There was never a single hint of any value given to the manufacturer; everything was abstract—nothing was concrete. If an artist with as much energy as Sir Frank Baines would devote himself to educating manufacturers I think something would be achieved, but it would not be very remunerative employment financially!

Are we not progressing as quickly as one can expect for a northern nation such as ours, where we are so devoid of sunshine and colour during the dreary winter months? We have also a long way to go before we can catch up with France—quite apart from the climate—and we are apt to forget that we had hardly a scrap of architecture, "from which springs all art," until William the Conqueror brought his builders over to build his churches. We had, up to that time, only a few plain Saxon buildings. When we visit those marvellous later works of art in France, such as the church of Brou, near Maçon, which are just as intact as on the day they were erected, and then think about the time when artistic progress was stopped in England by civil wars, the Puritans, etc., it makes one more satisfied when we see what London and many of our big cities can show in architectural buildings, and in the artistic displays which fill ma our shops.

And now I come to the reason addressing the editor of an archite paper. The architect more than an fessional man, is responsible for edu the taste of the public in arts and for by his work the mind and the the citizen are unconsciously trained. architecture teaches him something rules of proportion, and shows hin beauties of form and colour. Woul a great appreciation of art and craft ship accrue to the community if the buildings were regularly illustrated described in our daily newspaper monthly magazines by architects have the gift of lucid explana What does the average housel know about proportion, style, dignity in architecture? Would he a the gaudy, gilded hotels, r rants, and music-halls if he were tr even a little? It may be a matter mately for the Minister of Educ but he has more than he will get th for some years. In the meantim architectural societies might co-o with editors and proprietors of su media with a view to placing Engla a few hundred years where Greec two thousand years ago! Why not?

J. H. KERNER-GREENWO

The Executive of A. and S.A.P.U.

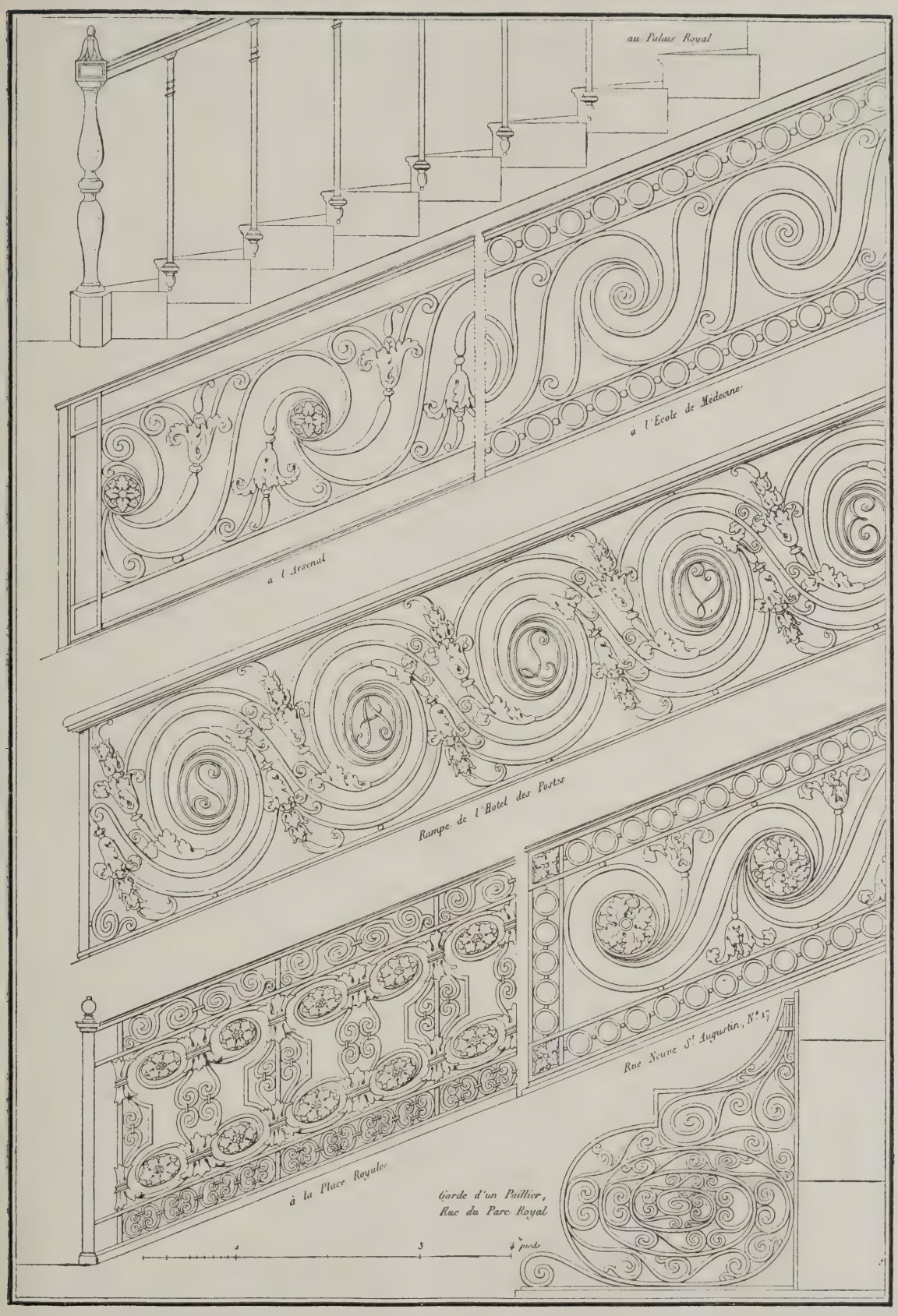
To the Editors of THE ARCHITE JOURNAL.

SIRS,—A rumour seems to be round that on the executive of the tects' and Surveyors' Assistants' P sional Union are representatives of p ing architects and surveyors. I trust y allow me space to contradict this dam report, which may in the first in have been set going either unintenti or maliciously. The practitioner eligible for membership of the except in a purely honorary, non-capacity, and members establishing own practices must revert to this The executive is composed of memb the Union in every way eligible fo membership.

There is another point for which I crave a little of your space. Many g men seem to be afraid to join us i we should become "extreme." We shown little signs of this so far, an certainly the desire and hope of th sent executive to pursue nothing moderate, yet not the less effective gramme of reform. May I point such gentlemen that the so "extreme" or "advanced" member profession or trade will always be the first to join such a movement as be the programme ever so moderate surest way to maintain a moderate for us is for those who stand outsi tremble to come boldly in and asser membership. Inside they have the very largely in their own hands; o they have no power at all, and i believe it in the best interests of th fessions that we do nothing extrem should show their loyalty to such b ing us. CHAS. MCLACHLAN, A.R.I.

Hon Secretary, Architects' and Surv Assistants' Professional Union

French Metalwork. 9.—Stair Balustrades



These delightful balustrades, mostly of the Louis Seize period, show a variety of treatments based on the scroll motif. The graceful, flowing lines emphasise and reinforce the function of the staircase. Our illustration is from an engraving by Bury.

Planning of American Department Stores

By H. Austen Hall, F.R.I.B.A. (Godwin Bursar, 1919)

HE planning and equipment of a store will provide, first, the best possible display of merchandise; condly, the greatest facility to the public r purchasing in comfort. Since this is ally a practical problem of display and nvenience, it is necessary to bear these o governing considerations in mind.

The Wanamaker Store

The Wanamaker store in Philadelphia essrs. D. H. Burnham and Co., archi-ts) was completed in 1911, and is the gest store in America in one building, d, in my opinion, the most comprehen-e. The building occupies an entire y block, and measures 480 ft. by 250 ft. is twelve storeys high, and rises 247 ft. ove the pavement. The basements are ft. below the street level, making the al height of the building itself 281 ft. e site is surrounded by streets on the ir sides, which gives the opportunity for ideal store plan.

The entrances are arranged in the centre each of the four fronts, and are treated a most dignified manner. No name pears anywhere outside the building. e plan is divided into three sections by walls running the entire width of the ilding. We are familiar in London h similar regulations, but whereas our it of open floor space is 20,000 ft. super, central portion in this building is 000 ft. super, the remaining portions 000 ft. super each. The magnificent ect of these great spaces can only be lised by those who have seen them. ch of the fire walls has three openings it, with fire-resisting doors and the usual ible link device for closing automatic-y in case of fire. Tower escape stairs planned at each end of the fire walls. ese stairs are reached by balconies open the air, and are planned with double ks—a stair within a stair. In addition these escape stairs there are six main ircases and four separate stairs to base-nt, making eighteen in all.

Lifts

The lifts are placed along the fire walls, l on both sides in long banks. The ition is central, and no light is tructed by this arrangement. There I think, some objection to so many lifts a straight line, because it is difficult to ch a lift if you are waiting in the wrong ce in a long line of lifts. This is over-ne to a great extent by making six ether travelling up and six down, so t you may know where to wait. No bies are required outside the lifts as y are in London, with the great advan-e that you can see over the whole floor n the lift in passing and get a good a of the goods for sale.

Stanchions

The spacing of stanchions, by which the n is determined, is the first considera-in a building of this kind. The spans pted at Wanamaker's are 22 ft. 6½ in., ch appears to work well in practice. tendency in new stores under con-ration is to increase these spans. They being contemplated up to 25-ft. 6-in. centres. The design of stanchion casings should be as simple as possible. The usual type employed is a plain square or round, the simpler the treatment the better, bearing in mind the subordination of architectural forms to the display of goods. The same remark applies to the ceilings; some of the vaulted and highly decorated types to be encountered undoubtedly distract attention from the goods exhibited and reduce the apparent height of the storeys.

The height of storeys varies considerably in America. Wanamaker's is designed on a lavish scale throughout, and this is expressed in the heights of their storeys, which are as follows: Ground floor, 27 ft.; first floor, 24 ft.; second floor, 25 ft. 7 in.; remainder, 17 ft. 5 in.; restaurant, 22 ft., all floor-to-floor measurements.

The feature of the interior is the grand court, 112 ft. long by 66 ft. wide by 150 ft. high. Only the very largest stores adopt the principle of a central court for light. I have found that when the claims of daylight or floor space have to be weighed against each other, the floor space is invariably chosen as the most important consideration. Consequently the great majority of stores practically depend upon artificial light on all floors.

Fittings

With very few exceptions the showcases, counters, etc., have not much architectural character, and, in my opinion, are inferior to those of the best stores in Paris and London. They are, however, extremely practical and, for the most part, very well made. The supreme object of display is kept in mind, glass fronts being adopted to show the contents of each compartment behind the counters and against the walls. The height is kept low—4 ft. 8 in. for showcases behind counters, and 6 ft. for wall cases being the average height. This enables a view of the entire store to be obtained by the public, and an effect of spaciousness is produced which is a valuable asset for business purposes.

Fittings of every kind, as well as the counters, are movable and made on the unit principle, so that they may be readily combined to form fresh arrangements to suit the manager of each department. The legs are made to screw to enable perfect adjustment to be obtained in any alterations that may be required. Any fixed points in the planning of the building—such as stancheons—should be arranged so that the flexibility of the scheme is not lessened in any way.

The great developments that have been made in the course of a few years are the direct result of the attention given to the problem by such architects as McKim, Mead, and White, D. H. Burnham, and others who have followed in their footsteps. The ablest men in America have given their best to the advancement of this subject, with the result that Fifth Avenue is probably the finest shopping street in the world.

The immense amount of activity in this form of building in London is the measure of our opportunity, and I have no fear of the result if the problems are approached with the enthusiasm and thoroughness which American architects have brought to bear upon them. I am not unconscious of the handicap we work under in London, the queerness of some of our building sites, the mysteries of the rights of light and air, and, most of all, the utterly out-of-date building Acts, which, although ably administered, do more than anything else to destroy imaginative work; but still the opportunity remains for a great occasion to be greatly met.

Discussion

In the discussion which followed, Mr. Gordon Selfridge said that architecture to the man of business in America had become as essential as daylight; a fine building was necessary as an accompaniment to a fine business.

Mr. John Murray, F.R.I.B.A., said there existed unnecessary restrictions upon London trade buildings, imposed by the London Building Acts and by municipal bodies, the like of which were quite unknown in America, in other countries, and even in some parts of Britain. Until some relaxation of those restrictions was obtained, traders and architects in London could not achieve with the design of trade buildings such good results as existed in America, in Paris, and other foreign cities. One limitation imposed was a stipulation that the height of the top floor must be limited to 60 ft. above the ground level. There seemed to him no logical reason why such a limited height should be necessary, having regard to the fact that the London Building Act allowed a height of 80 ft. That limitation was, in his opinion, very detrimental to the trade carried on in those buildings. It also injured and hampered architectural design whereby the buildings could not compete satisfactorily with foreign buildings. Such an unfortunate stipulation, he understood, was required by the Fire Brigade, but it was most incomprehensible to him, and he thought it should be abolished. Buildings in other parts of this country, in America, France, and many other foreign cities had no such restriction to contend with. He agreed that a beautiful building such as Wanamaker's needed no title displayed externally, but he doubted whether we should ever arrive at the time when British tradesmen generally would not require at least their names on the exterior of their buildings. But might not architects design adequate spaces for such advertisements and not leave the tradesmen to put their names in unsuitable places on the elevations? He suggested that the Institute might try to induce the authorities to restrict blatant advertisements, many of which so ruthlessly affixed to our buildings offended us all. If the limitation in height of 60 ft. to the top floor level were removed and the cubic capacity limit enlarged the central open space in these buildings in London might be considerably enlarged and improved. And greater scope would be given to the architect, finer buildings could be designed, the public would be better served by improved light and ventilation, the Fire Brigade would have an easy task, and—he ventured to think—the dividends would not be diminished. He-

xtracts from a paper read before the R.I.B.A. on day, March 15.

thought that the scale of modern London buildings might be better served by designs on the lines of Le Printemps and Lafayette drapery buildings in Paris rather than upon the lines of the more palatial street buildings in America, where artificial light was necessitated during the day. Mr. Hall had said that Fifth Avenue was probably the finest shopping street in the world. That was doubtless to a large extent due to the designs of good architects. And it was in their hands whether or not Regent Street was going to be the finest street in Europe. It was common knowledge that each building owner in that street had the right to employ his own architect, subject to compliance with certain reasonable estate conditions. One of those required each block between return streets to have one harmonious design. The architects required for this work to-day should be fitted for the services required of them by the public.

Mr. Millbourne, of Messrs. John Barker's, Ltd., said that he had frequently had a large number of plans through his hands, and he had usually found that the final authority for sanctioning the plans was the Fire Brigade Chief! Now, for buildings to be decided upon by the Fire Brigade was altogether wrong. Surely we ought to have as up-to-date a Fire Brigade as America. He quite agreed that large open spaces were necessary for the display of goods, as in the large streets of Paris and Vienna and other cities in the world. Unless we woke up to having much higher buildings in this city of ours we should be quite behind the times.

Mr. H. J. Clarke said that he had been to America on two occasions with the object of visiting their stores. The feature which impressed him most was the simplicity of the general treatment, and the freedom which open spaces gave to departmental planning. Mr. Hall hoped that when Regent Street was finished it might be a worthy street of shops, and that it would compete with even America, but they were handicapped by the high prices which had come about since the American buildings had been put up.

Sir Henry Tanner agreed with the remarks of Mr. Murray concerning the limitations which the County Council had put upon London buildings, and that they were a bigger handicap than any imposed by rising prices.

Mr. J. J. Joass, F.R.I.B.A., said that with the present restrictions it was impossible to build a store here: one could simply build a series of shops. He thought a determined effort ought to be made shortly to abolish the existing bylaws, though he held the opinion that it was in the hands of the traders themselves rather than the architects.

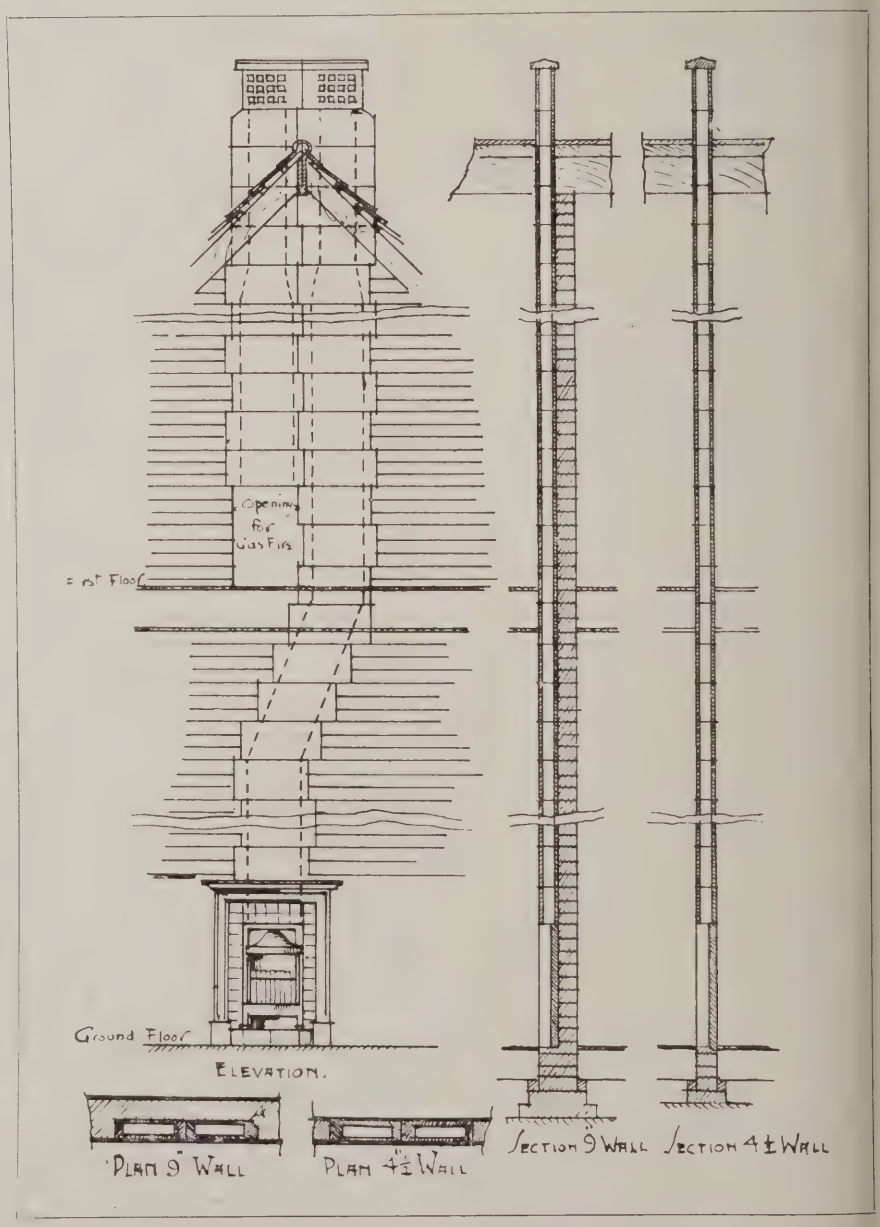
The Chairman, Mr. J. W. Simpson, P.R.I.B.A., closing, said it was, of course, absurd for a building to have to follow the Fire Brigade; it was the duty of the Fire Brigade to follow the building. He laid stress upon the importance of the architect designing buildings to suit the requirements of the trader, and not in his design ignore his clients' wishes and attempt a monument to himself.

In replying, Mr. Hall said that he really thought the obvious outcome of that meeting was to form a committee to begin a definite attempt to reform the present bylaws. In 1920 they were still governed by an Act of 1894.

Economies Resulting from Gas Installations

The increasing popularity of gas fires is a circumstance which architects are beginning to realise must be taken into account in planning new structures. Where, for example, it is definitely known beforehand that this system of heating will be adopted by the occupants, it is reasonable to consider whether the new method does not call for some form of construction better adapted for carrying off the by-products from a gas fire than that which has been devised for getting rid of the smoke from an open coal fire. There is no reason why they should be the same, since the conditions for governing their use differ so widely; in the case of the open fire, a recess for the burning coal is a necessity, whereas a gas fire can stand against a wall. Fireplace recesses, however, result in projecting chimney breasts, which must contain flues of sufficient size to be readily swept clear of soot accumulations. On the other hand, a gas fire, since it needs no recess, does not necessarily involve a chimney breast either, because the flue may be built within the thickness of the wall, even if that be bu a half-brick partition.

These considerations have naturally le to experimental research, one firm—th Nautilus Gas Fire Company—havin already introduced a system of concre gas-flue construction known as th Nautilus gas fire flue, by the adoption which appreciable structural economies i new buildings can be effected, and, b comparison with the older method of flu building, an increase of floor area als Foundation concrete, brick footings, pr jecting chimney breasts, trimmers, skev back arches, concrete hearths, larg chimney stacks, and contingent work inc dental to coal-flue construction may a be eliminated by the use of these flu blocks, which, as will be seen by the illu tration, break joint at every course an interlock where two or more flues ar carried up side by side. The flue block are made of Portland cement, sand, and little Pudlo, which latter preparation found to harden the concrete, increase th density of its texture, and produce shar arrises. Externally the blocks measu 16¾ in. by 4½ in., and the flue itself approximately 12 in. by 3 in. The adva tages of this construction are apparent.



DETAILS OF CAST CONCRETE "NAUTILUS" GAS FLUES AND TERMINALS.

The Week's News

(Continued from page 370)

Plymouth.

Plymouth is seeking permission to raise loan of £1,000,000 for housing.

Battersea.

Five-storey tenements are to be erected n a site in Battersea Park Road, S.W.

Downham.

The Council have decided to erect a cerain number of timber-built houses.

Hartlepool.

The Housing Commission has approved he erection of 121 houses.

Liverpool's Huge Housing Scheme.

Liverpool proposes to borrow £4,000,000 or housing and reconstruction.

Hendon.

Private builders' plans for over 100 ouses have been passed by Urban District Council.

Morpeth.

The T.C. have decided to erect seventywo houses at an estimated cost of 80,000.

Wath.

The Urban District Council have let ontracts to two local building firms for he erection of 462 houses.

Cenotaph for Gateshead.

Gateshead is to have a war memorial in he shape of a replica of the Cenotaph in Vhitehall.

Lower Bebington.

The Council has completed the purchase f land in connection with its housing chemes.

Dagenham.

The Ministry of Health has approved he site of 3,000 acres at Dagenham which he L.C.C. proposes to acquire for housng.

Ardrossan.

The lowest offers for the erection of a lock of twelve three-apartment flatted ouses amounted to £8,560, equal to £713 er house.

Change of Address.

Messrs. Edmond Coignet, Ltd., reinoroed concrete constructors, have acuired larger and more suitable premises t No. 125, Gower Street, W.C.1.

Wakefield War Memorial.

It is proposed to dedicate a "Victory hapel" in Wakefield Cathedral in emory of men who fell in the war. The ost will be about £3,000.

Canada.

In every large centre there is a shortage f dwelling-houses. It has been stated at builders' conference in Toronto that ere was work in sight for the trade for e next ten years.

Architectural Partnership.

Messrs. Arthur Knapp-Fisher and L. owell, of 33, Palace Street, S.W.1, have aken into partnership Mr. A. L. N. ussell, and the firm is now carrying on ractice under the name of Knapp-Fisher, owell, and Russell at the same address.

Height of Rooms in London Flats.

Protest was made at the last meeting of he L.C.C. against the inclusion, in an rrangement with the London Housing oard in regard to schemes for the conersion of houses into flats, of a clause roviding "that in the construction or foration of a room for habitable purposes place of a room or space not so previsly used, the London Housing Board will equire that it shall be at least 8 ft. in height throughout half its area." The Council's by-laws require a minimum height of 8 ft. 6 in. The clause, however, carried.

Travellers' Hostels.

The Liverpool branch of the Commercial Travellers' Association have appointed a committee to meet the Birkenhead branch with respect to the proposal to formulate a scheme to build or acquire an hotel on the Merseyside. This is expected to pioneer similar proposals for London and the Midlands.

Blackpool.

During 1919 the Corporation passed plans for 368 new houses and a further 128 have been approved during the past two months, in addition to the 640 dwellings which the Corporation propose to erect under the municipal housing scheme. Close upon 200 houses in various parts of the borough are in course of erection.

Isle of Wight War Memorial.

Satisfactory progress is being made with the work of beautifying the interior of the chapel of St. Nicholas, in Carisbrooke Castle, as a county memorial of the men from the island who fell in the war. Their names, numbering over 1,600, will be carved on polished wood-stone panels round the chapel walls.

Plymouth.

The Corporation have decided to apply to the Ministry of Health for sanction to borrow £1,000,000 to meet the capital expenditure on the building of houses and acquisition of sites. It is estimated that this sum will provide for 1,500 houses which the Corporation hope to build this year.

Manchester.

The Finance Committee of the City Council have decided not to adopt the scheme of housing bonds. The rate of interest on housing bonds has been fixed by the Treasury at 6 per cent., so that as long as Manchester can borrow at a lower figure the introduction of the bonds would appear to offer no advantages.

Southport.

The Town Planning Committee have decided to apply to the Ministry of Health for sanction to borrow £225,000 for the erection at Crossens and Ash Lane of 208 houses. Four houses are to be built by direct labour at an estimated cost of £800 for the living-room type and £950 for the parlour type of house.

Strand Lighting.

Westminster City Council has decided to instal a new type of twin lights on standards in the Strand and in the parish of St. Martin-in-the-Fields. In the place of lamps which gave a light equivalent to 100-candle power, the new twin lamps will be 1,800-candle power, increasing the prewar light by nearly four times, but only doubling the cost.

Guildford.

Guildford Corporation have resolved to invest £20,000 in the Onslow Village Society, which is to develop an estate of 646 acres running on to the Hog's Back. Lord Onslow is selling the land at £57 per acre. Houses are to be built on the average of five to an acre, and at the rear of each block there will be land for small holdings or allotments. Housing will not be limited to workers' cottages, which it is proposed to let from 11s. per week, but will also provide for better-class dwellings. All work is to be carried out by direct labour on a co-partnership basis. The cost of the scheme is nearly £400,000, and the Government are advancing 75 per cent. under the Housing Act. A start will be made in May. The Ministry stipulate that two hundred houses shall be erected in eighteen months.

Scarborough.

It is estimated that the capital expenditure necessitated by the Scarborough housing schemes will amount to £157,000 during the next twelve months. Application is being made to the Ministry of Health for permission to issue local housing bonds to this amount. The erection of the first Government subsidised house in Scarborough has been commenced.

The Beresford Memorial.

It has been decided that the memorial to the late Lord Charles Beresford shall take the form of a new wing to the Sailors' Home in Dock Street, London, for merchant seamen. A ward to be known as "The Lord Charles Beresford Memorial Ward," is also to be endowed for men of the Royal Navy in the Agnes Weston Royal Sailors' Rest at Devonport.

Dewsbury.

Following an actual start of building operations on the Old Borough Park the Health Committee has secured the Housing Commissioners' approval of the lay-out of the Fir Cottage estate at Ravensthorpe, upon which about 100 houses are to be erected. The committee has also secured a large site forming part of the Ravens Lodge estate at Scout Hill, and has recommended that application be made for sanction to borrow £9,992 10s., the purchase price of the land.

Keighley War Memorial Hall.

£955 has been received and promised in conection with the provision of a village war memoral hall. Tenders for the erection of the building have been accepted, amounting to £1,260. The structure, to be built of stone, will be 38 ft. long by 15 ft. wide, and the middle portion will be reserved for tablets recording the names of service men whose homes were in the village. Seating accommodation will be provided on both sides of this recess, with a glass-screened front.

Garden Cities in Holland.

Following an announcement that British architects will take part in the Garden City Exhibition at Amsterdam in May, it is reported that Dr. Roosegaarde Bisschop has sent to the authorities at Amsterdam, The Hague, Rotterdam, Haarlem, Arnheim, and Maastricht a scheme for the visit of a number of British architects, who will come to Holland in the Easter week to see what has been done by Dutch architects in the way of garden suburbs.

Bromley.

The Ministry of Health have given instructions for Bromley to proceed, under its housing scheme, to erect one hundred houses immediately. They will be constructed almost entirely of concrete and steel, the only brickwork being the chimney breasts and the 4½-in. wall between the scullery and parlour on the ground floor. The Council have agreed to contract for the erection of a number of this type at £840 per house.

Societies and Institutions

Royal Institute of British Architects.

At the last meeting of the Council of the R.I.B.A. the following business was transacted. The Council unanimously approved the report of the Charter Committee with regard to the unification and registration of the profession, and ordered a special general meeting to be summoned to consider the proposals recommended by the committee. A selection from the prize drawings exhibited at the R.I.B.A. in January will be sent on tour among the allied societies in the United Kingdom.

The conditions of a competition, limited to Service men, for the R.I.B.A. War Memorial were settled. Mr. George Hubbard was appointed in the place of Mr. Paul Waterhouse as the representative of the R.I.B.A. on the Interviewing Board at the Ministry of Labour. Mr. Digby L. Solomon was appointed as the representative of the R.I.B.A. on the sub-committee of the British Engineering Standards Association for the Standardisation of Copper-Alloy Fittings.

Architectural Association of Ireland.

Mr. George Beckett, F.R.I.A.I., the President, presided at a meeting of the Architectural Association of Ireland on Tuesday, March 9, in Dublin, at which an interesting lecture entitled "A Method of Cottage Construction in Reinforced Concrete," was delivered by Major J. H. Waller, D.S.O., who has invented a system of pre-cast concrete slab construction. The lecture was illustrated by slides showing constructional details and exterior and interior views of houses already erected on this system. At the conclusion a cordial vote of thanks to the lecturer was proposed by Mr. R. Caulfield Orpen, R.H.A., and seconded by Mr. George O'Connor, F.R.I.A.I.

Glasgow Institute of Architects.

A series of lectures arranged by Glasgow Institute of Architects was inaugurated by an address from the president, Mr. John Keppie, F.R.I.B.A. Mr. William H. M'Nab, vice-president, presided. He stated that the Institute was greatly indebted to the president for having stepped into the breach at a difficult time and carried on its operations during the last two years. Mr. Keppie devoted the introductory part of his lecture to an appreciation of the members who had fought in the war. Of these there were twenty-one Fellows, twenty-four Associates, and nineteen student members. Eleven made the great sacrifice and obtained distinction. The lecture consisted of a short review of the first twenty-five years' existence of the Institute, which was founded in 1868. An appreciation was given of some of the more distinguished members who had died during the period, such as James Salmon, Alexander Thomson, H. Macleod, and James Sellars, and a critical estimate of the positions which they took in the history of architecture in Glasgow was given. Mr. Keppie drew attention to the revival this year of the Greek Thomson Scholarship, which had been in abeyance since the beginning of the war. The subject, he said, would be a Pantheon to the memory of the great dead, in the style with which Thomson's name was associated. The President expressed the hope that that competition might prove attractive. The four years taken out of the life of so many of the younger architects were to be added to the age of those eligible for the competition, so that students up to the age of thirty-two might compete on that occasion.

Royal Institute of the Architects of Ireland.

A council meeting has been held at Dublin, under the chairmanship of the President, Mr. Lucius O'Callaghan. A considerable amount of correspondence with the R.I.B.A. in relation to cottage construction, professional conduct and practice, war service candidates, and delay in housing schemes was considered and referred to the Housing of the Working Classes Committee. A letter from the Northern Architectural Association re luxury building was also referred for report. An interim report from the Ancient and Historic Buildings Committee in connection with the Casino, Clontarf, and Weavers' Hall, Dublin, and the report of the Joint Council of Executive Professions were adopted. The honorary secretary was directed to advertise in the usual way the dates of the forthcoming examination for Studentship of the Institute.

The Assistants' Union.

The Liverpool branch of the Architects' and Surveyors' Assistants' Professional Union has held a meeting to celebrate the first anniversary of the formation of the organisation. Mr. T. A. Alexander presided. Mr. T. T. Rees, president of the Liverpool Architectural Society, said he was in sympathy with the movement although he thought "union" was an unfortunate title for them to have adopted at the present day. He preferred "association." There was, however, a necessity for such a body, as the existing organisations did not meet the wants of the assistant architect. He urged that every encouragement should be given to the young man of talent who had not the advantage of wealth or influence. Mr. Rees warned the meeting that the establishment of a minimum wage, which figures in the programme of the union, might prove a big rock ahead. If they fixed a minimum it would probably, as in the case of the trade unions, become the maximum, and he, for one, did not want every man to be on a level. Mr. J. Grieve, branch secretary, dissented from Mr. Rees's view that the establishment of a minimum wage would mean a levelling down. He saw no reason why the minimum wage should become the maximum.

Prudential Assurance Co.

The seventy-first annual report and accounts for the year ending December 31 is to hand and gives the following interesting information with regard to the business done during the year by the various departments:—Ordinary branch: policies issued, 138,037, assuring £22,319,642, and producing a new premium income of £1,639,762; premiums received, £7,627,547, an increase of £856,708; claims, £5,267,396, of which £175,882 was for war claims. Deaths numbered 12,829, and matured endowment assurances, 33,367; policies, including annuities, in force, 1,043,309. Industrial branch: Premiums received, £11,155,874, an increase of £1,419,471; claims, £3,997,138, of which £321,178 was for war claims; claims and surrenders numbered 405,709, including 36,260 endowment assurances matured; free policies granted to policyholders of not less than five years' standing numbered 72,293, making 2,036,395 now in force; 50,209 free policies became claims; total policies in force, with average duration exceeding fourte years, 23,097,157. General branch; Pr miums received, after deducting reinsu ances, £84,583; in addition, sinking fu policies have been issued insuring capital sum of £305,825 and producing annual income of £7,470. The assets the company in all branches, after writi down book values by £2,543,000, a £117,739,336, which, after deducting t balance of £3,500,000 owing in respect the advance from their bankers for pu chase of War Loan, shows an increase £5,112,474. The staff provident fu amounts to £207,128.

Trade and Craft

Modern Annealing Practice.

The current number of the illustrat monthly, "A Thousand and One Uses f Gas," contains, under the above tit practical descriptions and photograp of a number of furnaces design and constructed to meet the individual r quirements of manufacturers of steel ba stampings, wire, tubes and studs, met backs of buttons, etc. Copies of this pu lication can be obtained, post free, fro the publishers, The British Commerci Gas Association, 47, Victoria Street, We minster, S.W.

Conduit Fittings and Accessories.

We have received from Messrs. Simpl Conduits, Limited, a copy of their ne advance catalogue. This special issue made pending the completion of their fu list. The present section deals with sin plex conduits, fittings, and accessories, a in these features is particularly compr hensive. It has the advantage over ma similar trade catalogues in that there is fair amount of descriptive matter dealin with the various accessories to the syste which makes the book rather more th an ordinary price list, and certainly i proves its usefulness.

Disabled Soldier and Sailor Craftsme

The trades that can be taken up by pa tially disabled soldiers and sailors are ve limited in number, but those closely alli to the applied arts and crafts are probab as numerous as most branches of industr Stratford-upon-Avon is indisputably t place where a lead should be given to revival of all the arts that have, durin the last few years, had to stand still. T Applied Art Studios of that Elizabeth town have during the last twelve mont been training and helping disabled me to find a craft by which they can at lea make a living. It is not claimed that a artist can be made, but there are ma trades upon which the artist or craftsma depends for his results; for instance, stained-glass window can be leaded up a finished after having been painted; a lea rain-water pipe head can be burne together after it has been modelled a cast: plaster-work in relief can be treate with colour in a far more artistic way tha formerly, when the scheme has bee settled, and so on through all the craft The men are naturally keen to reproduc their regimental crests in glass; an under proper guidance, make very artist panels which are most suitable for eith the private house, club, or institutio They may be worked into existing wi dows or hung over glass without disturb ing any work, and form a simple and di nified memorial. The registered office the Applied Art Studios is 20, Henle Street, Stratford-upon-Avon.

Current Prices of Materials

)NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

ABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
CAVATOR AND CONCRETOR	
avator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth,
ourer, 1s. 8d. per hour.	not exceeding 6 ft. deep, basis price, 3s. per yd.
vy, 1s. 8d. per hour.	cube.
berman, 1s. 9d. per	Exceeding 6 ft., but under 12 ft., add 25 per cent.
ur.	In stiff clay, add 50 per cent.
Holder, 1s 9d. per hour.	In underpinning, add 120 per cent.
chman, 6s. 6d. per shift.	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
ken brick or stone,	Headings, including timbering, add 400 per cent.
in., 7s. per yd.	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
mes ballast, 18s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Gravel, 18s. 6d. per yd.	Planking, 5½d. per ft. sup.
sand, 18s. 9d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth
hed sand, 20s. per yd.	35 per cent.
ened ballast or gravel,	Hardcore, 2-in. ring, filled and rammed 4 in. thick,
d 10 per cent. per yd.	3s. 3d. per yd. sup.
ker, breeze, etc., prices	Do. 6 in. thick, 4s. per yd. sup.
cording to locality.	Puddling, 30s. per yd. cube.
land cement, 79s. per	Cement concrete, 4.2.1, 53s. per yd. cube.
n.	Do. 6.2.1, 49s. 9d. per yd. cube.
in small lots, ex	Do. in upper floors, add 12½ per cent.
ndon stock, 100s. per	Do. in ferro concrete work, add 20 per cent.
n.	Do. in underpinning, add 50 per cent.
lime, 64s. per ton.	Lias lime concrete 41s. 3d. per yd. cube.
's charged extra at	Breeze concrete, 26s. per yd. cube.
6d. each and credited	Do. in lintols, etc., 4s. 9d. per ft. cube.
ien returned at 2s.	
isport hire per day:	
rt and horse, 26s.	
ion motor lorry, £6 10s.	
eam lorry, 5-ton, £7.	
iller, 30s.	
eam roller, £4 10s.	
ater cart, 30s.	
INER.	
urer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes,
berman, 1s. 9d. per	4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
ur.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in.
layer, 1s. 11½d. per	15s., 9-in. 26s. per ft.
ur.	Note.—These prices include digging and filling for
ber, 2s. per hour.	normal depths, and are average prices.
hman, 6s. 6d. per shift.	
eware pipes, tested	
ality, 4-in. 3s., 6-in.	
9d., 9-in. 7s. 11d. per	
iron pipes, coated,	
. lengths, 4-in. 4s.,	
. 5s. 9d., 9-in. 8s. 6d.	
yd.	
and cement and sand,	
Excavator above.	
for caulking, 63s.	
cwt.	
et, 1s. 9d. per lb.	
KLAYER.	
layers, 1s. 11½d. per	Brickwork in stone lime mortar, Flettons or equal,
ur.	£44 10s. per rod.
urer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
older, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
on stocks, 84s. 6d. per	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
ons, 75s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
ordshire blue, 220s.	Do. picked stocks, 6d. per ft. sup. extra.
M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d.
ricks, 2½ in., 223s. per	per ft. sup. extra.
	Struck pointing, 4d. per ft. sup. extra.
d, salt, white, and	Tuck pointing, 10½d. per ft. sup. extra.
y stretchers, £25	Weather pointing, 4d. per ft. sup. extra.
M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
headers, £24 10s.	Do. 1½-in., 5s. 10d. per yd. sup.
M.	Do. 2-in., 7s. 6d. per yd. sup.
rs, extra, 130s. per M.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
ds, less, £1 per M.	Asphalte, damp course, ½-in., 1s. 4d. per ft. sup.
nt and sand, see Ex-	Do. vertical, 1s. 8d. per ft. sup.
ator above.	Slate damp course, 1s. 10d. per ft. sup.
grey stone, 62s. per	Asphalte paving in two thicknesses, ¾-in., 11s. 6d.
	per yd.
l lime mortar 26s.	Do. skirting, 6-in., 1s. 6d. per yd.
yd.	
course, in rolls of	
in. 4s., 9 in. 7s. 3d.,	
in. 10s. 9d., 18 in.	
per roll.	
)N (INCLUDING SLATE).	
n. 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 6d. per ft. cube
xer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
rer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
lder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
	Sunk face, 3s. 1d. per ft. sup.
ind stone:	Do. circular, 3s. 8d. per ft. sup.
tbed, 4s. 5d. per ft.	Joints, arch, 2s. per ft. sup.
be.	Do. sunk, 2s. per ft. sup.
ebed, 4s. 8d. per ft.	Do. do. circular, 2s. 8d. per ft. sup.
be.	Circular-circular work, 10s. 3d. per ft. sup.
stone, 3s. 1d. per ft.	Plain moulding, straight, per inch of girth, 7½d. per
be.	ft. run.
ield red, 7s. 6d.	Do. circular, 10½d. per ft. run
l trade extras for	Half sawing, 9d. per ft. sup.
e blocks.)	Add to the foregoing prices if in York stone 35 per
paving, av. 2½ in.	cent.
5d. per ft. sup.	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in.,	Deduct for Bath, 33⅓ per cent.
2s. 3d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Ex-	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
cavator," etc., above.	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal:
Tiler, 1s. 11½d. per hour.	Ladies 78s., Countess 86s., Duchess 95s. per square.
Scaffolder, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 145s. per
Labourer, 1s. 8d. per hour.	square.
N.B.—Tiling is often	Delabole do. 90s. per square.
"Piecework."	Add, if vertical, 5s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square
Slates, 1st quality, per M.:	approx.
Portmadoc, Ladies £16	Double course at eaves, 11d. per ft. approx.
10s., Countess £30 15s.,	Tiling, 4-in. gauge, 5th course nailed, in hand-made
Duchess £46 2s. 6d.	tiles, average 92s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 85s. 6d. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 55s. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Ex-	
cavator," etc., above.	
Handmade tiles, 126s. per	
M.	
Machine tiles, 117s. per M.	
Westmoreland slates, large	
254s. per ton, Peggies	
194s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s.
hour.	per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft.
Labourer, 1s. 8d. per hour.	cube.
	Do. framed in trusses, etc., including ironwork,
Timber, average prices, ex-	14s. per ft. cube.
London stock and d/d	Pitch pine, add 33⅓ per cent.
works or site.	Fixing only boarding in floors, roofs, etc., 15s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel:	Centering for concrete, etc., including horsing and
1st £70, 2nd £66 10s., 3rd	striking, 93s. per sq.
and U/S. £64 10s. per	Slate battening, 29s. per sq.
std., or	1-in. deal gutter board on firring, 108s. per sq.
1st 8s. 6d., 2nd 8s., 3rd	1¾-in. molded casements in 4 sqs., glazing beads and
and U/S. 7s. 7d. per ft.	hung, 3s. 9d. per ft. sup.
cube.	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £68.	Deal cased frames, oak sills, 2-in. D.H. sashes,
3rd and U/S. £65 per	brass pullies, etc., 4s. 10d. per ft. sup.
std.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Do. F.E., 3rd and U/S.	Do. do. do. 1½in. 3s 3d. per ft. sup.
£58.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Battens, 3rd and U/S.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
£51.	If in oak multiply 6 times.
Yellow: 1st £83 10s., 2nd	If in mahogany multiply 6 times.
£69, 3rd and U/S. £64	If in teak multiply 7½ times.
5s. per std.	Wood block flooring, standard blocks, laid in
Norwegian or Swedish:	Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d.,
Boards, planed, U/S. £62	1¼-in. 16s. per yd. sup., average.
per std., equals 63s. 6d.	Staircase work, deal:
per sq. of 1 in.	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
Flooring, P.E., U/S. 57s.	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
3d. per sq. of 1 in.	
T. and G. and matching,	
U/S. 58s. per sq. of 1 in.	
Wainscot, oak, 3s. 9d. per	
ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup.	
of 1 in.	
Do. Cuba, 4s. 9d. per ft.	
sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of	
1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc.,
Mate or labourer, 1s. 8d.	87s.
per hour.	Lead pipe, fixed, including running joints, bends,
	and tacks, ½-in., 2s. 6d. per ft.
Lead, milled sheet, 65s. per	Do. ¾-in., 3s. 2d. per ft.
cwt.	Do. 1-in., 3s. 8d. per ft.
Do. Drawn pipes, 65s. 6d.	Do. 1¼-in., 4s. 3d. per ft.
per cwt.	Lead waste or soil, fixed as above, complete, 2½-in.,
Do. soil pipe, 70s. per	11s. 3d. per ft.
cwt.	Do. 3-in., 12s. per ft.
Do. scrap, 33s. per cwt.	Do. 4-in., 17s. per ft.
Copper, sheet, 2s. 3d. per	Cast-iron R.W. pipe, at 24 lb. per length, jointed in
lb.	red lead, 2½-in., 2s. 4d. per ft.
Solder, plumbers, 1s. 9d.	Do. 3-in., 2s. 8d. per ft.
per lb.	Do. 4-in., 3s. 5d. per ft.
Do. fine, 2s. 6d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc.,
Red and white lead, 10d. per	4-in., 1s. 10d. per ft.
lb.	Do. O.G., 4-in., 2s. 1d. per ft.
Cast-iron pipes, etc.:	Cast-iron soil pipe, fixed with caulked joints and all
L.C.C. soil, 2-in. 5s.,	ears, etc., 4-in., 5s. 3d. per ft.
3-in. 7s. 6d., 4-in. 8s. 9d.	Do. 3-in., 4s. 6d. per ft.
per yd.	Fixing only:
R.W., 2-in. 4s., 3-in.	W.C. pans and all joints, P. or S., and including
5s. 3d., 4-in. 6s. 6d. per	water waste preventers, 45s. each.
yd.	Baths only, with all joints, 37s. 6d. each.
Gutter, 4-in. H.R. 3s. 2d.,	Lavatory basins only, with all joints on brackets,
4-in. O.G. 3s. 6d. per yd.	30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass: Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5¼d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 36s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 8d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 3s. 9d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 3s. 9d. per yd.
Sawn laths, 3s. 8d. per bdl.	Extra, if on but not including lathing, any of foregoing, 6½d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 65s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. fine, 66s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3¼d. per ft. lin.
Plaster, 74s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 75s. per ton.	
Thistle plaster, 64s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 120s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
Do. boiled, 12s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 19s. per gal.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Do. fine, 3s. and upwards per piece.
Double size, 7s. per firkin.	Varnishing paper, 1 coat, 14s. per piece.
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Hard stopping 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Varnish, hard oak, 18s. 6d. per gall.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £52 per ton
Mate, no fixed rate.	Do. in small sections as reinforcement, £39 per
Erector, 1s. 10d. per hour.	Do. in compounds, £44 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £43 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buil in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per
	Fixing only corrugated sheeting, including was and driving screws, 1s. 5d. per yd.
Cast-iron, heavy	
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel: Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including s or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 2s. 10d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 4s. 7d. yd. sup.
Do. corrugated, 6s. 3d. per yd. sup.	Do. do. corrugated, 8s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ⅜-in. thick, in colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Hanging only metal casements in, but not inclu wood frames, 5s. 6d. each.
Do. in metal frames, 3s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £23 10s. red £25 10s.	Asbestos slating or tiling on, but not inclu battens or boards, plain "diamond" per sq grey 66s., red 67s. 3d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the of cement used (about 3s. to 4s. per bushe cement).
Wrought iron R.W. goods: R.W. gutter, 4 in., per yd. 1s. 10d.	Gutter-fixed, 1s. 4½d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	R.W.P. fixed, 1s. 9d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

Architectural Association's Annual Dinner

The Architectural Association held their annual dinner in their new club premises, 35, Bedford Square, on Friday night last. Major Maurice E. Webb, D.S.O., M.C., M.A., F.R.I.B.A., president of the Association, was in the chair.

Proposing the toast of "The Future of Architectural Education," Major Webb said that it was the first time ladies had been present, either as members or as guests. It was also the first time they had entertained in their own premises. The Association had enrolled 300 new members since the armistice. He thought the encouraging number of students was largely due to the reputation of Mr. Robert Atkinson as an art teacher, and they owed him a great deal. It was a rare thing to find a man with constructive talent and the talent for teaching it: Mr. Atkinson had both. He spoke of the Association's difficulties during the war, but said it had recovered from the shock. In conclusion, he said that, in his opinion, there was a very great field for the Association in the provinces; in many places in the provinces there was no architectural teaching of any kind. If the Association could remedy that they would assuredly do so.

The Right Hon. H. A. L. Fisher, M.A., LL.D., F.B.A., President of the Board of Education, responding, said that architectural education had not been the creation of the State: it had sprung from the fruitful soil of individual enterprise. He had always envied the architect. He belonged to the most fortunate of all professions. He was a citizen of three worlds: the world of art, the world of science, the world of business. And he was welcome in all three. He was not subject to any errors of fantasy, as was the painter. But nevertheless he had some moments of trouble. There was the client. Or, worse still, the client's wife! The client was to the architect what the parent was to the school. Dr. Arnold, the famous head of Rugby, had a drawer full of papers marked "angry parents"; he did not know if architects had a drawer marked "Angry clients." Speaking of the smoke nuisance, he said that a committee of the Privy Council were at present considering the question. Smoke obscured the sun and polluted the atmosphere, but it nevertheless compensated for all that discommo by providing us occasionally with ma pictures of light and of form. Howe he had been informed that before long our cities were to be free of smok Mr. G. Gilbert Scott, A.R.A., F.R.I.B Vice-President of the Association, dered the thanks of the Association their guests.

Other speakers were Sir Reginald Bl field, R.A., M.A., F.R.I.B.A., Mr. J W. Simpson, P.R.I.B.A., the Rev. Ca R. D. Swallow, M.A., of the Educat Committee, L.C.C., and Professor A. Richardson, F.R.I.B.A. Sir Aston We President of the Royal Academy, absent owing to indisposition.

Coming Events

WEDNESDAY, MARCH 24.

Concrete Institute.—Visit to the premises of Messrs. Selfridge and Oxford Street, W.1. 4 p.m.

FRIDAY, MARCH 26.

Architectural Association Conversazi and Dance to celebrate the opening of new club rooms.

Wednesday, March 31, 1920

Volume LI. No. 1317

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

THE PARISH CHURCH, AMPTHILL, BEDS.

(From a drawing by Hanslip Fletcher.)

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the late Eighteenth Century. 3.—Doorway, Loakes House, High Wycombe, Bucks.

Rich as it is in eighteenth-century work, the sedately handsome town of High Wycombe has few more beautiful things to show than this fine doorway, with its exquisitely proportioned members nicely spaced. The side-lights are noteworthy, and the six-panelled door would seem to be original.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Vednesday, March 31, 1920 Volume LI. No. 1317

The Unification of the Profession

THE blessed word "Mesopotamia" is being steadily supplanted in these latter days by other words, which, less attractive in their picturesque connotations, are—on the surface at ast—more scientific, and therefore more in favour in ı age which takes itself seriously. Of these later words ıe leader in the race is perhaps "Co-ordination." It a magic word, the cure for all our ills. The Departents of State must be co-ordinated, the railways must ; co-ordinated, the mines must be co-ordinated, and / such operations, efficiency, economy, and all the her things considered most desirable to be secured ill be added unto us. Other words near akin to codination are amalgamation, unification; federation— ɔtent words in the industrial and political worlds. rom the federation of Trades Unions or Employers' ssociations to the federation of Man is a long ladder ı the rungs of which we shall doubtless ascend wearily r many years.

Little wonder if those who have what our friends the uakers call "a concern" about architecture should feel at there, too, is a sphere in which the potency of these zard words may be tested. The unification of archiɔture, the amalgamation of architectural societies, the -ordination of architectural activities, all are pics increasingly filling the minds of those who in ɔments of leisure from the practice of architecture are racted to its politics. To be or not to be; to amalmate or to federate? These are the questions. Their lution will demand real statesmanship. For some ıson or another the profession of architecture has ver had the safeguards protecting the Church, the ıw, and Medicine. Not that these professions have nieved the ideal: that is of at first delimiting their ɔpe, and next of including within the professional ganisation all those who practise what they profess. ll, they have achieved a measure of success which s been denied to architecture, and, writing as an hitect, one may perhaps admit that in the public ;, if there is any gradation between the various prosions, architecture stands rather on a lower than a her level to the rest. That is perhaps a sentimental ısideration, but it has its influence, and there are ny who believe that a closer organisation of archits would result in placing the profession of hitecture on the same plane as those of law and dicine. Whether that be so or not time will show; ether such an organisation can be secured, time must ɔ prove.

The questions of amalgamation or federation, erever considered, always rouse opposition, and that surprisingly. Each individual life, whether that of ngle human being or that of an association of human ngs, is first of all concerned with its own preservaı and advantage, and views with intense suspicion posals that appear to limit either the one or the other. ese considerations prevail amongst architectural eties as much as in any other association, and the blem there as everywhere else, is how to preserve dom to pursue particular objects which have brought associations into being, while securing the common pursuit of objects desirable to them all.

The problem is more difficult to solve to-day than in the past, because there have come into being associations of architects which did not exist before. Cleavages of interest sufficiently wide and deep to necessitate and justify the formation of separate associations have appeared. We have the old-established societies, the Royal Institute of British Architects, with its charter, its long succession of eminent presidents, its official associations with the Crown, its position as an examining body, its network of allied societies. It undoubtedly holds the premier place. Then there is the Society of Architects, with its definite purpose of securing registration (a purpose not yet achieved), vigorous, active, numerous, concerning itself with many difficulties of the architectural profession which escape the notice of the Institute. The Architectural Association, with its history of more than half a century, younger to-day than at its inception, growing, developing, unquestionably the greatest educational power possessed by the profession. Then there is the Association of Official Architects, marking a distinction which must year by year become more apparent between the conditions of those who practise for profit and those who serve for salaries. Here is a divergence which may develop, and in its development cause exasperation and exacerbation in the profession. Nothing but sympathy and understanding and good-fellowship can prevent this. Last but not least, there is the Union of Professional Assistants, barely a year old, already possessing a membership approaching 2,000. Here the clash of economic interests so familiar in the industrial world will soon be more than faintly heard; softened perhaps by a consideration which does not elsewhere prevail, that the architect's assistant is normally on the way to become an architect-principal himself. The profession of architecture may be regarded as a great family, and in all families there are differences in personality, in temperament, in tastes, and desires. Domestic difficulties may arise and will arise. Mistakes will be made, we are assured, in the best regulated families, and it may be that the better regulated the family, the more frequent may be the mistakes. But the main concern of every respectable family is to hide its domestic difficulties from its neighbours, and to present a united front to the world.

What is general has pretty nearly always some good sound reason behind it, and those of us who want to achieve unification in the profession will be wise to remember that it cannot be attained if it means suppression or even subordination of the variations that mark one group from another. Individuality which has demanded separate organisation will continue to demand it. If by some process of compromise for the moment all organisations could be absorbed or amalgamated into one, little time would elapse before a resurgence of opinion and feeling would reproduce, in the future, organisations through which those opinions and feelings could be expressed. After all, our problem

is not to do away with difficulties which arise inside the profession, and are confined to matters of no public concern. We shall always continue to hold diverse and varying views on matters concerning the practice of architecture. What is of real moment is that when matters arise in which the interests of the community are involved, on these matters the profession should speak with one voice.

The outstanding question, of course, is Registration. Registration does not affect architects only. It affects the community in which architecture is practised. It cannot be achieved without its consent. If that consent is to be obtained, if there is to be agreement in the community, there must first of all be agreement in the profession. Can this be obtained? How can it be obtained? It would be futile for any single society to present to Parliament a Bill for Registration. There will always be found plenty of opponents to such a proposal outside the profession, and no weapon would be more potent in their hands than the evidence of a disunited profession. We have had during the last session two Bills for the registration of nurses promoted by separate nurses' societies. There speedily developed a conflict between the societies which, in the House, led to the defeat of both measures. That is a story which points a moral. There should be wisdom enough in the profession to apply it. We wait for the statesman who can devise some scheme by which an instrument can be created through which the opinion of the whole profession can be expressed on those questions which are of interest to all its members. H. BARNES.

[It will be understood that in a signed article the opinions expressed are those held by the contributor. Further views on this vitally important subject will be published in our next and succeeding issues—see Notice at end of page 399.]

Notes and Comments

A Good Beginning

THE unanimity with which the resolutions relating to unity of the Profession were passed at the special meeting of the Institute held on March 22 is of good augury for the ultimate success of the scheme. Not a dissentient voice was raised. True, the meeting was not committing itself to a policy, but only consenting to an attempt to frame one; but the general lines and the chief objects of the policy are sufficiently well known, and the existence of any considerable body of opposition to the policy would have been indicated at the meeting. There would have been a determined effort to nip in the bud any movement that was not generally approved. From the unanimity of this meeting it is at any rate safe to infer that the members of the Institute are very willing to reopen the twin questions of Federation and Registration. We suggest the use of the word federation as a more comprehensive term than amalgamation; for the mixed committee to which the meeting consented includes elements that are not likely to be fused together as it is hoped that the Institute and the Society will be, but that could very well be brought into some large scheme of federation, in which all the professions that are more or less directly related to architecture would be conjoined. To bring about such a federation wears superficially the appearance of a formidable task, but it is one that cannot be regarded as impossible of fulfilment. It seems desirable, however, to offer a cautionary word with regard to the unanimity of the meeting. It would be too large an inference from it that the cause is won, and that therefore propaganda work may safely be relaxed. It should, on the contrary, be pursued with redoubled vigour, on the principle of pressing home an advantage. Active steps should be taken, by personal canvassing, and by every possible means, to ascertain what is really the opinion of every member of each society on the subject of amalgamation, or on the larger question of federation. Some clash of opinion on these high matters is to be anticipated, and should be rather welcomed. It would be vastly better than the apathy that sometimes lurks behind unanimity. We have made an earnest effort to ascertain architectural opinion on these matters, and the results of our special commissioner's investigations in the chief provincial centres will be published as announced at the end of the next page. In putting ourselves to the trouble and expense of collecting this information, our sole object is to render loyal service in what is by far the most important movement in the annals of architectural organisation. In publishing the opinions that we have gathered, we shall invite general discussion.

The President Feted

One has heard of "quick lunches." Liverpool Architectural Society has beaten this record by providing a quick dinner in honour of Mr. John W. Simpson, President of the Royal Institute—quick, that is, in the sense that it was arranged in a hurry, though not consumed at full speed as your quick lunch is. The reporter has it that "Mr. T. Taliesin Rees, F.R.I.B.A., President of the Liverpool Society, explained that the gathering had been hastily convened to celebrate, at the earliest possible moment, the unanimous adoption in London, on the previous night, of resolutions for the unification and registration of all British architectural associations, and of architects outside the associations. That was short notice, and we trust that nobody's digestion suffered from the rush. Mr. Simpson, at all events, seemed jubilantly eupeptic. He was, indeed, in splendid form. He said that the London meeting was epoch-making, and would be historical—augured not only the advance of civil architecture and the improvement of the position of the practising architect, but also the securing of that influence in public affairs which their great profession ought to have and was determined to gain.

Architect and Sculptor

Those who set out to shear have sometimes come back shorn. A perverse tricksy sprite seems to dog the steps of those who attempt to correct other folks' alleged errors. For example, a writer in the "Daily News," quoting from our note on the Nurse Cavell memorial, says that in this passage we make a mistake: "If this is a specimen of a sculptor's architecture, it will be a standing argument for co-operation between architect and sculptor." Our contemporary must pardon our failure to see wherein lies our mistake. He goes on: "The real standing argument on this matter, of course, is Sir Edwin Lutyens's Cenotaph—the real specimen of a sculptor's architecture." Again we must confess that we "do not see it." Hitherto, we had been under the impression that Sir Edwin was an architect. How, then, the the Cenotaph can be a real specimen of a sculptor's architecture is a sublety that completely eludes us.

Architectural Schools

We are very glad to print the valuable letter which Emeritus Professor F. M. Simpson has contributed to the discussion on this subject. It sets on record authoritatively—for the first time, we believe—the dates at which the respective schools of architecture were founded and developed, and the names of the men who should be held in grateful memory for pioneer work

kind—Charles Robert Cockerell, R. Norman Shaw, T. G. Jackson, William Hoskin, Professor Kerr, Pro-r Donaldson, and—if he will pardon the reference ofessor F. M. Simpson himself. At a moment n architectural education is being so keenly dis-ed, it is well to have at hand some such historical as Professor Simpson has supplied. They come gly from one who to his high qualification as author e most recent, and in many respects the most valu-, of the histories of architecture, adds that of one se long practical experience in architectural educa-would entitle him to say, did not his native modesty d, *Pars magna fui.*

Dilution of Labour

he Prime Minister, in response to a request made in House of Commons, has circulated a statement ecting the attitude of building trades operatives to-ls the dilution of labour. From this it appears that e is a general reluctance on the part of the unions elax their rules with respect to apprenticeship, or onsent to recruiting from the ranks of unskilled ur. With one exception, however, all the building e unions have agreed to the principle of the scheme raining disabled ex-service men, the exception being slaters, whose trade is obviously unsuitable for dis-d men. Plainly, then, the unions are not devoid of passion; and it will no doubt be found that they are nable to reason. If they can be persuaded that ion—that is to say, augmentation of their numbers he introduction of men outside their ranks—will not re them in any way, will not violate the principles ch they hold almost sacred, and will be a real help to country, ultimate compliance is just possible, but Prime Minister must not be sanguine of enforcing Trade unionists are a stubborn race, and strongly nt any attempt at coercion.

Road Maintenance

djacent local authorities are quarrelling bitterly it road maintenance. Leigh Corporation are seeking ers to run motor omnibuses, and the Lancashire nty Council strongly oppose the scheme on the ques-of the wear and tear of roads. Giving evidence in matter before a Select Committee of the House of mons, Sir Henry Maybury, of the Ministry of nsport, said his Ministry were of opinion that a maxi-n of about three-halfpence a 'bus mile should be paid neet maintenance charges. Housing and transport g so closely inter-related, this announcement has iously an important bearing on that subject; and it t also affect building generally, because limited sport implies retarded building development. On other hand, it is, as we have so often said, simply strous that local authorities should be put to heavy ense on account of national traffic—a point that this ute between Leigh and the Lancashire County ncil brings into lurid prominence. Main-travelled ls should be nationalised.

Business Buildings Wanted

n the City the landlord profiteer is rampant. So says Alfred Yeo, M.P., who cites three almost incredible ances of extortion. In one case a premium of 500 was demanded for a suite of offices. In another, rent of certain offices was increased from £400 to 700. In a third, a candidate for tenancy was rmed that possession of certain premises could be ined this summer for an additional £500 as key ey. This state of things, Sir Alfred declares, is ing worse from day to day, and, as he says, must e a disastrous effect on trade, "because the firms to ransom in this way do not know how they stand n day to day, or when the next imposition may come g." All this results, of course, from the scarcity of ness offices, and points to the desirability of allowing the erection of commercial premises to proceed *pari passu* with housing, instead of being restricted or indefinitely delayed by it. The radical cure for profiteering is vigorous competition. The remedy Sir Alfred suggests is the setting up of fair-rent courts, which, however, hardly go to the root of the matter.

The Perils of the Streets

From a White Paper which has just been issued it appears that the casualties in streets in England and Wales during the year 1919 reached the appalling total of 45,544, of which 2,239 were fatal. More than twenty thousand of these accidents occurred in the London area, nearly seven hundred of them being fatal. Surely it is unnecessary that this awful slaughter should continue. Of course, it ought never to have been possible; but, allowing that motor traffic came so suddenly as to take our road authorities unawares, surely they cannot have the callous inhumanity to let all this killing and maiming go on at the same rate. Proper means of preventing it must be provided immediately. Subways are costly; but that is a paltry consideration compared with the bloodshed and misery.

Westminster Cathedral War Memorial

Lord Dunraven has explained in the Press the project for a war memorial to the men of Irish regiments. "It was felt," he writes, "that the most appropriate place for those who died for the Empire was in the heart of the Empire—London; that a memorial to those who made the great sacrifice in the fight for right should be on consecrated ground; and that, as the great majority of Irish soldiers were Roman Catholics, the most suitable place would be Westminster Cathedral." Cardinal Bourne will admit the memorial to St. Patrick's Chapel. Each regiment will have its own marble tablet and its own *liber vitæ*. Not a word would we say to discourage so laudable a scheme; we wish it the fullest measure of success, financially and artistically. That being understood, we may be permitted to express the hope that the memorial will be the last to be put up in the Cathedral. It would be the more effectual for being unique; and we cannot contemplate without a shudder the prospect of the Cathedral's being, in course of time, overcrowded with intrusive statuary as the Abbey is.

Registration: Important Notice

Fully aware of the vital importance of the Registration movement, we have taken special steps to ascertain as far as possible the opinions on it held by representative architects in the chief provincial centres. London opinion on such matters has full scope for outlet at the meetings of the Institute, the Association, and the Society, but outside the metropolitan area there is a lack of adequate facilities for expression. It is always difficult to know what country architects are thinking on any particular question of architectural polity. Feeling it to be essential to elicit the views of representative men on a subject of such momentous importance and of such far-reaching consequences to the Profession, we commissioned a member of our editorial staff to visit most of the prominent architects in several of the chief provincial towns to ascertain their views on Registration and cognate topics. The results of his investigations and personal interviews will be published in a series of articles which will appear in our issues of May 7, 14, and 21. From the materials which our representative has collected, valuable conclusions may be drawn as to the views that currently prevail in provincial architectural organisations. Obviously these articles will be of much value and great interest to the Profession, as they will give the first clear indication of the general trend of architectural thought in the provinces regarding the Registration movement and the far-reaching issues involved in it.

The Week's News

Covent Garden.

The Covent Garden estate, forming part of Sir Thomas Beecham's Estate, Limited, has been sold. The purchase price is believed to total some millions of pounds.

£2,000,000 for Houses

The Middlesex County Council have decided to apply for sanction to raise £2,000,000 for loans to housing authorities in the county. The creation and issue of a 6 per Cent. Middlesex County Redeemable Stock (1920-1940) has also been decided upon.

Garden City Flats for London

A garden city of working-class flats in the heart of London is the final aim of the present efforts of the Woods and Forests Department on the Crown property around Cumberland Market, Regent's Park. Professor Adshead, architect of the Prince of Wales' estate, has drawn up plans for the three-storey flats.

Paris Municipal Palace

The Paris City Council propose to expend 400,000,000 frs. on the construction of a "Palace of Exhibitions." The agreement between the State and the Municipality authorising the expenditure stipulates that the building must be erected within three years. The scheme is receiving considerable opposition owing to the crisis in the building trade and the shortage of housing accommodation.

Reinforced Concrete

A committee of the Concrete Institute are considering the amendment of the L.C.C. regulations for reinforced concrete buildings. In order that the County Council may be called upon to consider the amendments, the proposals of the Concrete Institute must be supported, or supplemented, by similar proposals by the Institution of Civil Engineers, the R.I.B.A., and the housing, and to that extent only there was priority.

Cost of Building Materials

Dr. Addison, Minister of Health, stated in the House of Commons that the whole question of costs and profits made in the production of building materials was being inquired into by a Committee appointed by the President of the Board of Trade. The form of contract being entered into by local authorities provided for adjustments in respect of rise or fall in the cost of material. Certain quantities of materials had been purchased for housing, and to that extent only there was priority.

Marylebone Town Hall

The new Marylebone Town Hall, which has been formally opened by Prince Albert, is of Portland stone, and is designed in the classic manner, following the style of the English Renaissance. The plan is oblong, and the frontage consists of two long and two short façades, divided by pylons with fluted Corinthian columns. Between the pylons is a portico surmounted by a main cornice carrying a balustrade. The council chamber and reception rooms are panelled with carved walnut, and artistic metal work is a feature of the chamber. The architect is Mr. T. Edwin Cooper, F.R.I.B.A. The building was completed in 1916, when it was taken over by the Government.

Labour for Housing

Dr. Addison attended a conference of unions in the building trade at the House of Commons to discuss possibilities of accelerating housing construction. Tenders for approved houses were pouring into the Ministry, stated Dr. Addison, and for the 200,000 houses which he wanted to see built by next spring 48,000 bricklay would be needed. In no circumstances, he said, sho there be a stoppage of house building in connection w any dispute. With regard to augmentation of labo there were, he was told, 262,000 ex-service men receiv out-of-work benefit. He suggested that it was up to trade to devise a scheme whereby some of these m could be trained and employed. As to output, he thou the time had come when piecework should be adopt subject to safeguards. He undertook to submit a fo of contract, and they on their part would submit to agreed scheme for checking costs. If any saving sho be effected it would be divided equally between the lo authorities, the management, and the workers.

Cement Manufacturers Consolidate

The Boards of the Associated Portland Cement Ma facturers, Ltd., the British Portland Cement Manuf turers, Ltd., Martin Earle and Co., Ltd., and Wouldham Cement Co., Ltd., to obtain increa efficiency in the distribution of the cement manufactu by them, have consolidated their selling and distribut organisations. After April 1 the Cement Marketing C Ltd., which has been formed, will solely undertake selling and distribution of the cement, lime and ot goods manufactured and produced by the compar above named. It is hoped to lessen, if not to overcor the difficulties now existing in connection with the dis bution of cement and to see that the interests of various buyers receive equitable treatment. This arrangement of selling methods is stated to be a mat of internal organisation, and has no bearing whate on the question of prices. The directorate and staff the Cement Marketing Co., Ltd., will consist of th hitherto handling the output of the above companies.

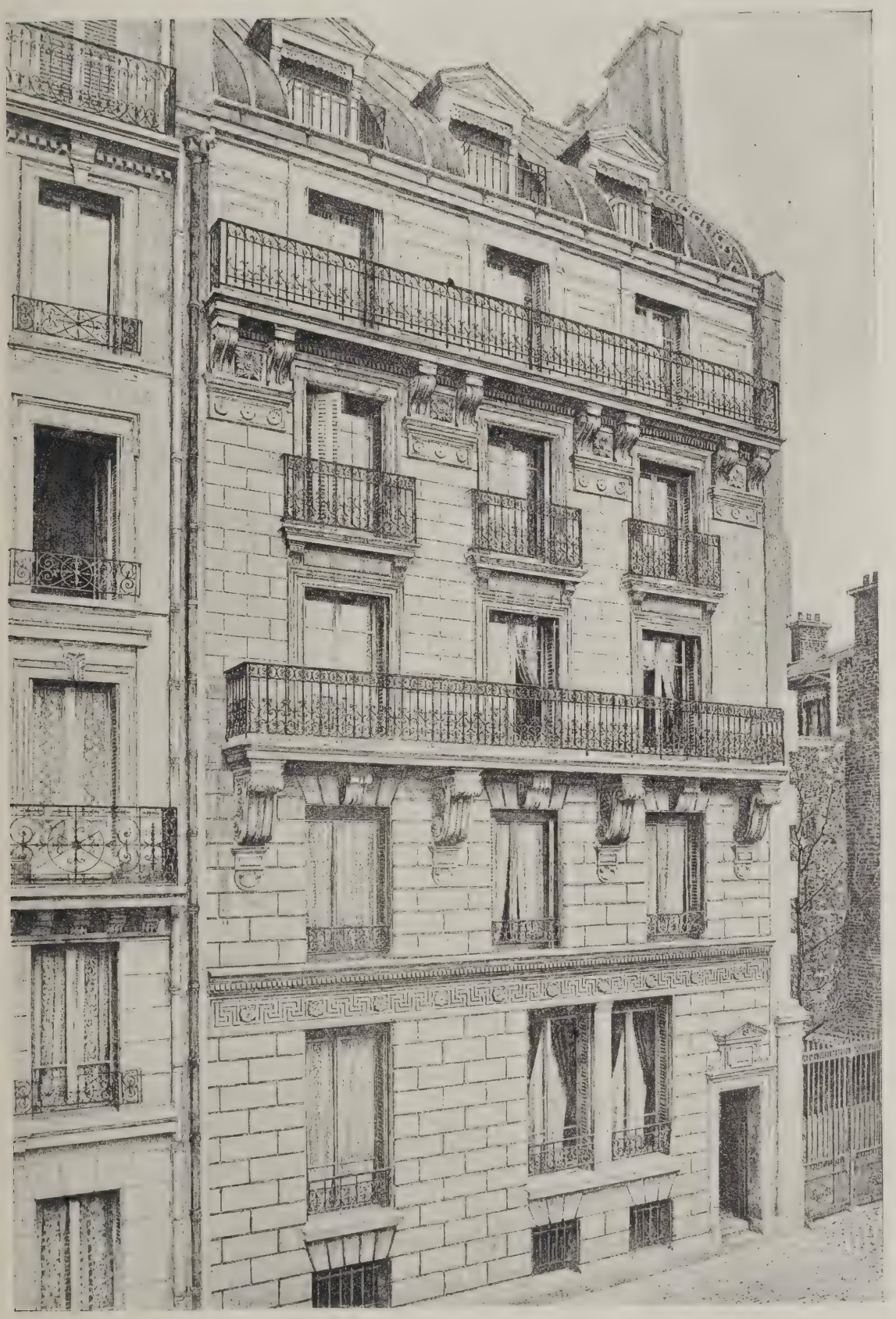
Building Grants to Private Persons

The following decisions, embodied in a gene housing memorandum just issued, have been given the Minister of Health with regard to the grants to made for the construction of houses by private ent prise:—(*a*) The grant is payable to the person at wh expense the house is built. (*b*) No conditions imposed as to the price or rent at which a house may sold or let after it has been built. (*c*) The grant is p able for houses of the bungalow type. (*d*) No grant payable towards the cost of enlarging or adapti existing buildings. (*e*) The Local Authority m approve the inclusion of rooms other than those spec cally referred to in the memorandum, provided tha (i) the conditions in the memorandum with regard floor space are complied with; and (ii) the sizes of rooms are not less than the minimum sizes authorised the case of houses built by local authorities. External offices which are not an essential part of house will not be included in measuring the floor ar but all essential parts and offices must be included ev if they are provided as external offices. (*g*) The gra will be paid in all cases where Certificate A has be granted by the Local Authority, provided of course th the house is completed within the prescribed time. T Ministry will receive returns from the Local Author of the number of certificates issued, and if and wh these returns show that the total grant available w shortly be exhausted the Ministry will take such acti as may be necessary to prevent any difficulty arisin The full grant is available only for buildings complet before December 23, 1920, therefore there should be avoidable delay in approving the plans of houses. leaflet has also been prepared explaining the sche briefly.

(*Continued on page* 421. *Architectural Causerie on page* 409.

French Façades. 1.—House Rue Notre Dame des Champs, Paris

Pascal, Architect



Characteristically Parisian, gay without loss of dignity and decorum. The balcony motif is supported in a double sense by other decorative features that are useful as well as beautiful. One feels, however, that the rosettes in the fret above the first floor are intrusive, destroying the purity of the feature.

The R.I.B.A. Makes History.

AN important special general meeting of the R.I.B.A. was held on Monday evening of last week for the purpose of obtaining tne sanction of the general body of members "for e Council's proposals as the first step towards the ification and registration of the profession." Mr. hn W. Simpson, P.R.I.B.A., was in the chair.

The resolutions to be moved on behalf of the Council ose out of the following interim report of the Charter ommittee:—

1. In compliance with the instructions of the Council e Charter Committee has examined and is now conlering the question of unification and registration as presents itself at the present time, together with the eans which may best give effect to the general desire the profession.

2. In view of the time that has elapsed since the ndate of the general body was given and the wider tlook now apparent, the Charter Committee recomends that the Council should summon a special general eting at an early date with a view to obtaining sancn for the Council to prepare and present for the nsideration of the profession a more extended and nprehensive scheme than that covered by the resoln of 1914.

3. If this proposal is approved, the Committee ggest that the Council should, also with the sanction the general meeting, appoint a Committee repreitative of the whole profession to prepare such a eme as is indicated above. This Committee should composed of:—

(a) Representatives of the Royal Institute of British chitects.

(b) Representatives of the Allied Societies in the ited Kingdom.

(c) Representatives of the Architectural Association.

(d) Representatives of the Society of Architects.

(e) Representatives of the Official Architects' sociation.

(f) Representatives of the Architects' and Surveyors' sistants' Professional Union.

(g) Representatives of the architects not belonging any professional organisation.

February 20, 1920.

The resolutions were:—

. "That this general meeting of the Royal Institute British Architects approves of the Council's proposal prepare and present for the consideration of the prosion a more extended and comprehensive scheme than t covered by the resolutions of 1914."

. "That this general meeting of the Royal Institute British Architects approves of the Council's proposal appoint a Committee representative of the whole fession to prepare such a scheme as is indicated in report of the Charter Committee, dated February 1920."

Before formally opening the meeting the Chairman nted out that the resolutions did not commit them ny definite policy.

Opening the business, the Chairman said that it was portant on account of what it implied. The basis of r enterprise was formed in 1914, under the presidency Sir Reginald Blomfield, when, on June 29, they had ided to proceed with the Registration Scheme. The broke out immediately afterwards, and everything ained in abeyance. Definite action had since been yed by his own unfortunate illness. He then moved first resolution—which, he again urged, did not commit them to anything, and was merely to clear the ground for further action.

Mr. Horace Cubitt, A.R.I.B.A., seconding the resolution, said that, as an Associate on the Council, it seemed to him that that Institute had had two alternative policies—the policy of exclusion, and the policy of inclusion. At one time they had favoured the former; later they had changed their policy for that of inclusion. He asked members to look back and see what had happened by the inclusion of the Licentiate class. If there had been any loss to individual members by their inclusion—and he doubted whether there had been any loss—the whole profession had gained considerably, and it would be a bad thing for the Institute if they had remained outside. They had proved their worth over and over again; he might instance the negotiations with the Government over the housing question, which had been carried on almost entirely by Licentiates.

Upon an amendment proposed by Mr. Herbert A. Welch, A.R.I.B.A., and seconded by Mr. Sydney Perks, F.R.I.B.A., the first resolution was amended to read: "That this general meeting of the R.I.B.A. approves of the Council's proposal to prepare and present for the consideration of the profession a more extended and comprehensive scheme for unification and registration of the profession than that covered by the resolutions of 1914."

Upon the request of several members the sense of the 1914 resolutions was read.

The resolution was then put to the meeting, and carried unanimously.

The Chairman then brought forward the second resolution. In 1911, he said, a scheme for the amalgamation of the Society of Architects with the R.I.B.A. had been before them. This failed because the scheme involved some sacrifice to their members, and they had not made sure that the scheme would be acceptable to those chiefly concerned in its effects. It was now intended that all the interested professions should be represented for its framing. He felt sure that they were all concerned in improving the conditions of the practising architect, though all might not have the same views. But he was very certain of this—that none were selfish or unwilling to give and take in supporting the common end desired by them all. The Committee proposed for the purpose must necessarily be a large one, but it need not meet very often. Representatives from those practising architects who did not at present belong to any recognised society were to be obtained by inviting them to those galleries, and he was sure the Press would help in making the invitation as public as possible. The fixing of the proportion of numbers of representatives from the different bodies was rather a delicate matter, and one best left to the Council. The Council would regard their duty in that matter as judicial, and would arbitrate in the fairest possible way. At the same time, it was not as important as it seemed at first sight, for no mere majority would satisfy anybody—they had to be all together in that matter. He then moved the second resolution, the words "as is indicated in the report of the Charter Committee, dated February 20, 1920," being omitted as tautologous.

Mr. Paul Waterhouse, F.R.I.B.A., seconded the resolution, and said that, as the intermediate representative of a family whose association with the Institute had been a long one, he had one excellent reason for doing so, and that was to show in the most public way possible his sympathy with the way the resolution had been framed.

Mr. Sydney Perks suggested that the words: "This Committee to be composed of (and the names of all bodies and individuals concerned afterwards inserted)"

should be added. The Chairman agreed with the suggestion.

Mr. H. A. Corlette said that allied societies in the United Kingdom only were mentioned. He had looked at the calendar of the R.I.B.A., and out of thirty-one allied societies eleven were not in the United Kingdom. He thought they should be considered, and that the resolution should be framed so that they should be included.

The Chairman said that allied societies outside the United Kingdom had their own schemes. It would be easy for them to be included so far as unification went, but whether or not it would be possible to devise a scheme for registration he was not quite clear as to the difficulties of carrying it out, but thought the words "in the United Kingdom" might be omitted, so that they were at least not barred. This was agreed to.

Mr. S. Hurd Seager, speaking on behalf of New Zealand—which already had registration—expressed his thanks for the re-wording of the resolution.

The resolution was then put to the meeting and carried unanimously.

The Chairman said he would like to congratulate them on the work they had done. He really thought they had done more that night than appeared on paper. He was not sure that they had not already unified the profession. By the setting up of that Committee they had formed a body which would be a Council of Architects, and which they might make a body representative of the whole profession—a body which might deal with such questions as education, examination, and registration. In closing, he said that he had good reason to believe that the Institute of Engineers and the Surveyors' Institution would join with them.

The 1914 Proposals

For the convenience of our readers, we subjoin the text of the Council's proposals as amended and passed by the General Body in 1914:—

1. The Charter to enable the R.I.B.A. to constitute and maintain a Register of persons who have shown:—

(a) In the first instance by the possession of certain qualifications (see Clause 3),

(b) In the future, and after the first establishment of the Register, by their having passed certain prescribed tests (see Clause 5),

that they are qualified for the practice of Architecture.

Fellows of the R.I.B.A. elected by the Council hereafter under Clause 2 of the Supplemental Charter of 1909 to be admitted to the Register without having passed the "prescribed tests."

2. All persons so inscribed on the Register to have the right to call themselves "Registered Architects," but only Corporate Members of the R.I.B.A. to have the right to call themselves "Chartered Architects."

3. In the first instance there shall be inscribed on the Register:—

(a) The Fellows, Associates, and Licentiates of the R.I.B.A.

(b) All such members of Allied Societies in the United Kingdom as are engaged in the practice of Architecture and are recommended by the Councils of those Societies and approved by the Council of the R.I.B.A.

(c) Any person who shall prove to the satisfaction of the Council of the R.I.B.A. that at the date of the granting of the Charter he had been for at least two years engaged as a principal in the *bona fide* practice of Architecture, or had served for ten years as pupil, apprentice, or assistant, or partly as one and partly as the other, to a person or persons who at the date of the granting of the Charter is or are entitled to be enrolled on the Register; and who shall approved by the Council of the R.I.B.A.

No applications for admissions to the Register un 3 (b) and 3 (c) to be entertained after six months fr the date of the granting of the Charter.

4. Every Architect on the Register must sign a fo of declaration prescribed by the Council.

5. The "prescribed tests" shall be the Examinati qualifying for admission to membership of the R.I.B. and the fees payable for entering for such Examinati shall be identical with the fees payable by candida for the R.I.B.A. Examinations. Candidates who h passed the Examinations shall be eligible for memb ship of the R.I.B.A.

6. An annual registration fee shall be payable to R.I.B.A. by all Architects on the Register.

7. The Register to be administered by the Regist tion Board of the R.I.B.A., whose functions shall limited to supervision of the Register, to investigat of complaints in regard to the professional conduct any person on the Register, and to reporting to Council of the R.I.B.A. on matters connected with Register only. The Board's powers to be limited reporting to the Council, by whom the required act will be taken.

8. Representation on the Registration Board and the specific purposes only as defined in Clause 7 to given to Licentiates and to Registered Architects being Corporate Members or Licentiates. In all ot regards the constitutional position of the Licentiates remain as at present.

9. The number of members of the Registration Bo not to exceed 23, in the proportion of 10 Fello 7 Associates, and 6 Registered Architects, of whom least 3 shall be Licentiates, until such date as the cl of Licentiates shall have expired.

10. The Council to consist of:—

1 President (Fellow).
4 Vice-Presidents (Fellows).
1 Hon. Secretary (Fellow).
5 Chairmen of Standing Committees (Fellow
1 Chairman of Board of Architectural Educati (Fellow).
15 Ordinary Members (Fellows).

The above are ex-officio.

10 Associate Members.
2 Past Presidents (Fellows).
1 Representative of the Architectural Assoc tion (Fellow or Associate).

The President or other representative, being fellow of the R.I.B.A., of every Allied Society the United Kingdom having not less than 50 of members on the Register (or such other number the Council may from time to time determine [Allied Societies having less than 50 members the Register to be represented on the Council rotation.]

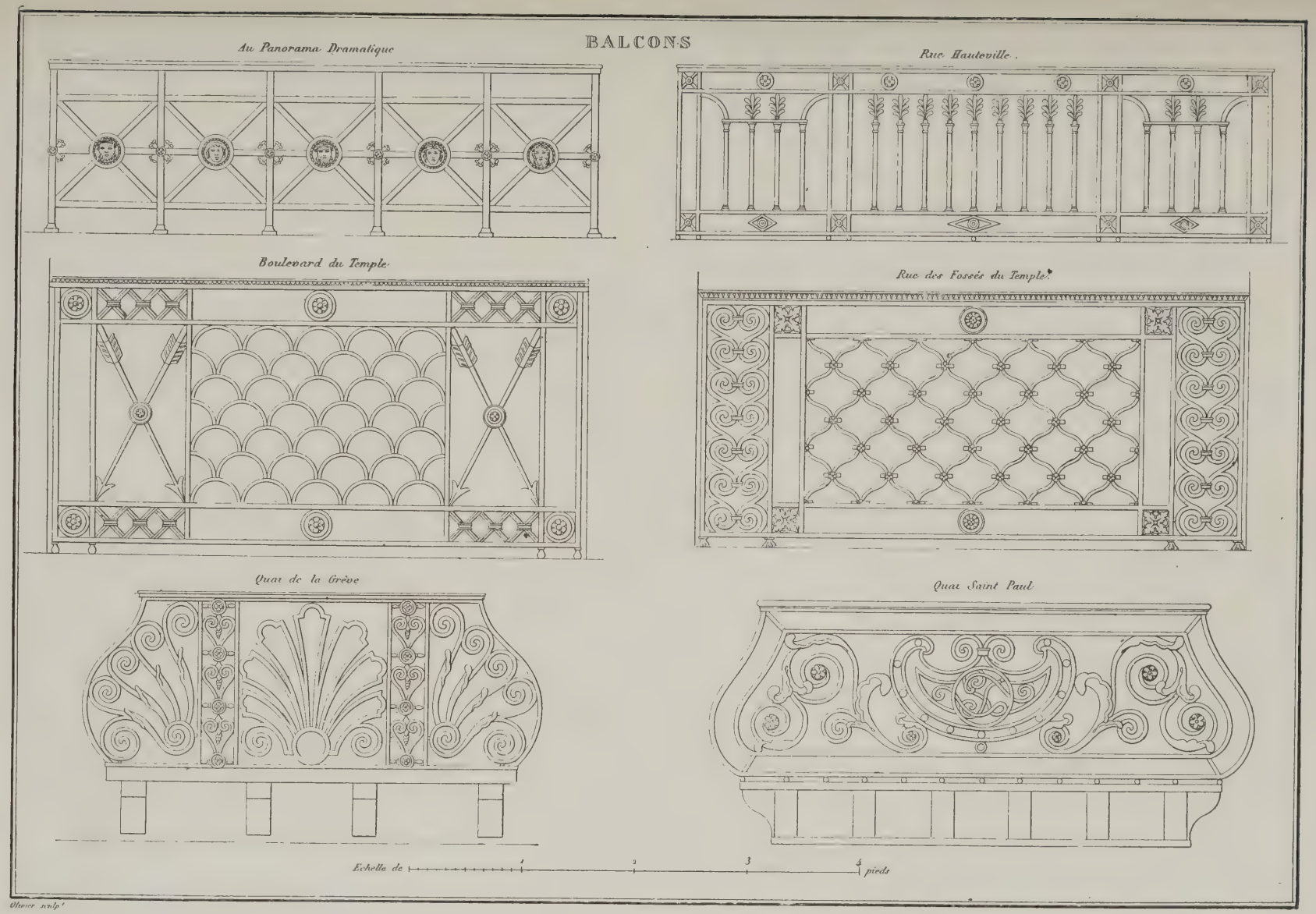
11. The R.I.B.A. to be empowered to issue a sca of fees payable to Architects on the Register.

12. The R.I.B.A. to have enlarged powers of holdi property.

13. The By-law in regard to the Board of Archite tural Education to be revised so as to confer up certain Schools of Architecture the privilege of repr sentation on the Board.

At the Meeting of 29th June, 1914, the followi Resolution was passed:—"That as the proposals ha received the approval of members, the Solicitors to t Institute be instructed by the Council to prepare t necessary petition for submission to the Privy Council This direction has remained in abeyance owng to t war.

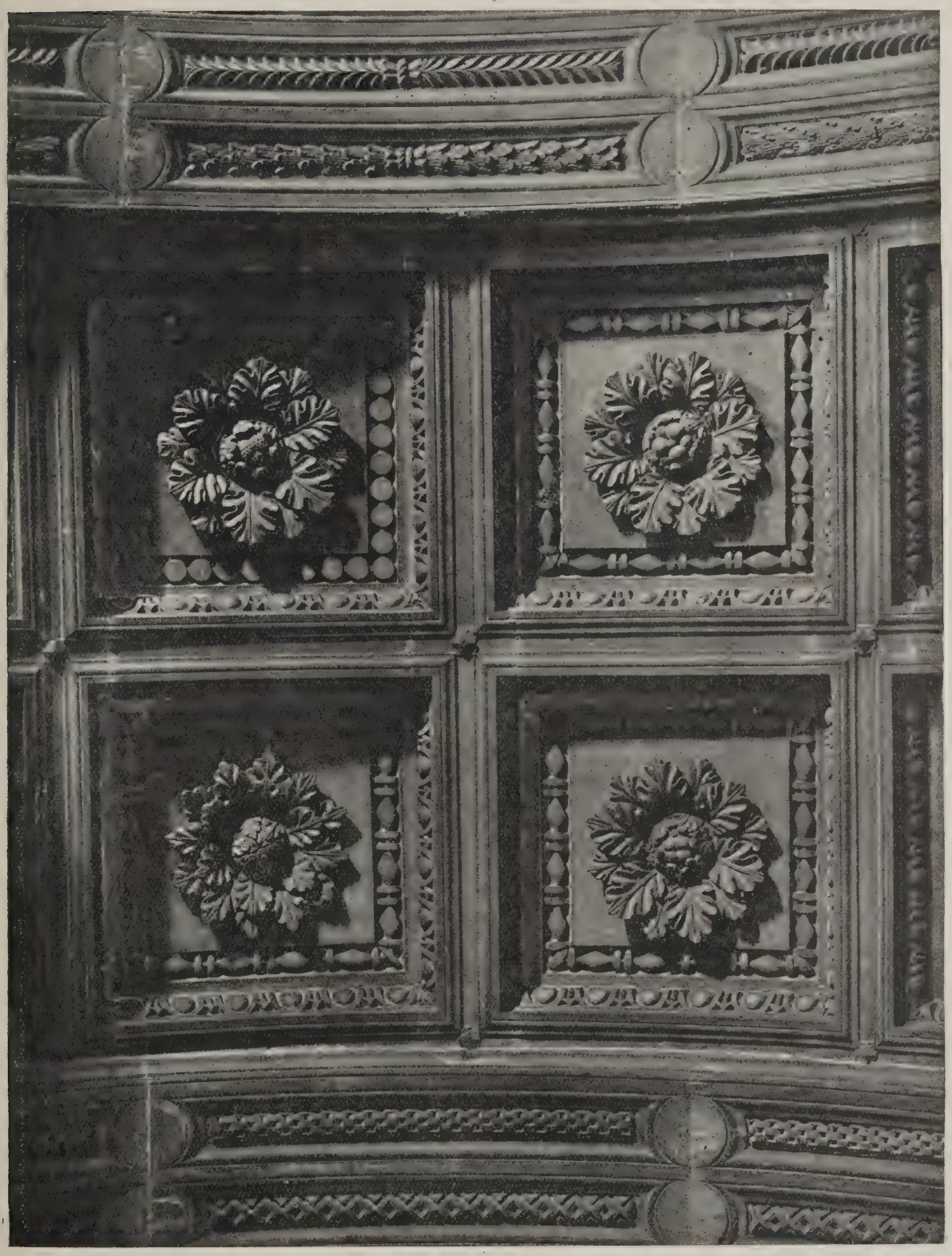
French Metalwork. 10.—Balcony Railings



These designs for balcony railings, which are taken from Bury's book, fairly exemplify the exquisite taste of the French in this feature, of which they make lavish but charming use, especially in the façades of town houses. See, for example, the façade by Pascal on page 401.

Architecture of the Italian Renaissance. 9.—Soffit from the Cloisters, Santa Croce, Florence

Brunelleschi, Architect



This coffering, executed no doubt from Brunelleschi's own design, is mainly remarkable for its pleasing exemplification of variety in unity, the general scheme being consistently preserved, while the details are diversified for every panel.

Architectural Causerie: Working Methods

ARTISTS always delight to hear of the methods of their compeers in the sphere of artistic creation, whether of architecture, sculpture, or painting. In the early days of the St. Martin's ıe School of Art, or academy as it was named, we the beginnings of the tradition of scholarship stallised in the production of the English school. garth was the chief mover in founding St. Martin's Lane Academy, which was ported by annual subscriptions, and ruled a committee. No sooner had Gibbs shed St. Martin's-in-the-Fields than this English demy started. It was followed by a project from the ettante Society for a public academy. Then the iety of Artists developed into the Royal Academy; later there came into being the Architects' Club, eting at the Thatched House Tavern; and as the al Academy was evolved from the Society of Artists, he Architects' Club ultimately grew into the Royal itute of British Architects.

* * *

'he reason for the excellence of eighteenth-century ding inheres in two facts—first, the influence of the ured patron, and, secondly, the spirit of collectivism opposed to individualism) permeating the members he English school. It is popularly supposed that the ters of English architecture prepared every drawing essary for the buildings entrusted to their charge. hitects need not to be told that the assumption is rly absurd. From Wren to Chambers, from Taylor to kerell, and, later, in the careers of the Victorian hicists, it was customary for the chief designer or itect to prepare the first sketches and then to superend the execution of the design on paper in the hands qualified clerks or personal assistants. Reference to elaborate working drawings in the R.I.B.A. Library gests and even proves this to have been the ordinary hod of working.

* * *

is the architect's business to interpret the needs of a it, to deal with the difficulties of a definite pro-nme, and at the same time to conform to the condi-s of his own day. In fact, it is impossible for any ı, however clever, to emancipate himself from the od in which he lives. English architects of the past e caught up by the wave of passionate enthusiasm for sicism which swept across Europe from Italy and it itself in France, Holland, Germany, and even hed the icy confines of Russia. Those architects had ely very largely on books for their motifs, and while ming their work to be equal to the masterpieces of ancient civilisations, they were subconsciously ning the very excellent tradition which in course of has in itself become ancient.

* * *

nce the eighteenth century our vision has become ıder. We are still in the Renaissance movement. In-l, it is impossible to think of any other movement. ivals of local traditions, stunt performances, essays assanian, Hindo-Chinese, Assyrian, or Neo-Grec nowhither. Neither must we plead the difficulties nodern practice, the evolution of new methods of truction, and the application of new materials to indrances to the practice of architecture on lines of cal reasoning. Sometimes the complaint is heard modern architects have so much to consider in the of irritating trifles that it is impossible for them to on the lines of simplicity that were formerly the ıe. This contention is sheer nonsense. On the rary, design to-day is not one whit more difficult than as in the past. If anything, it should be easier, for store of material in the matter of motifs is greater to-day, thanks to the camera and the publisher, than it was in the past, and facilities for training are open to all.

* * *

If an architect, engaged to design several buildings at the same time, attempts to work out all the drawings with his own hand, he is a fool—no less. What does it signify if he employs ninety clerks, providing he secures a splendid result? As the chief designer, he is responsible for the preliminary sketches made to a small scale. The conception is, or should be, the product of the architect, the elaboration of the conception is work for the assistant. It is, however, essential that the chief designer shall work with the assistant by sketching any necessary modifications in the details of drawings in the making by supervising the full-size details of mouldings and working in close collaboration with the sculptor and carver.

* * *

The late Charles Follen McKim is recognised to have been the greatest modern architect of recent years. He was trained at the Ecole des Beaux-Arts, studied in England, and starting practice in America at a time when no definite architectural policy existed. He was determined to pursue eclectic methods and restore to the Republic the tradition of his earliest years. McKim's vision of the world's architecture enabled him to achieve the vast number of academic buildings now enriching the eastern States. Every building produced by his firm bears the unmistakable stamp of his personality. Curiously enough, the work of McKim, paradoxical as it may seem, attained personality through collective and eclectic methods. Had McKim forced his personality into the designs, had he attempted stunt tricks, he would have remained below the academic platform.

* * *

Real architecture is the slowest thing on earth. It creeps along in direct ratio to the spirit of a people. We must not consider the products of mediocrity as forming part of architectural achievement. The rubble does not count; it is the splendid surface of the square masonry that makes the direct appeal to the senses and the understanding. Architecture must advance on lines of collectivity. In other words it must be academic, and to be academic it must of necessity be traditional. Now even this raises an important subject for debate. There are phases of design calling for solution according to local traditional methods, and others demanding attention with a view to their inclusion in the realm of universal tradition. Individuality, modernism, character, directness, and all the other attributes will fall into place without an effort on the part of the chief designer, providing he keeps a large view of things and an almost god-like appreciation of facts and the importance of common sense.

* * *

We all design our buildings, and very rightly so, elevation first; in other words, we form a mental picture of the conception when we discuss affairs with our clients. Into this mental picture we project the plan and into the plan the bones of the structure. It is always a case of conception, plan, skeleton. No other method is practicable. The man who thinks in one plane and produces an elaborate plan is at a loss to express the plan in elevation, hence the failure of the methods of the Ecole des Beaux-Arts during the past thirty years.

* * *

Let it be sufficient for the controlling architect to give the preliminary scheme, let him treat his assistants as partners in the realisation of his ideas, and, moreover, let him not be ashamed to work in a library of rare books and illustrations, and, to use an expression of Cockerell's, "be ready to quote authorities and precedents like the lawyer."

AERO.

First Principles in Building Construction

By ROBERT F. SHERAR, Architect

CONFUSED terminology often makes the subject of statics appear more difficult than it really is. This weakness in the statement of first principles is partly due to a want of precision in the use of the words dynamics, statics, and mechanics. Some writers use the word dynamics as relating to forces in motion, statics as relating to forces at rest, and mechanics as a general term, including the whole subject. Others more correctly use the word dynamics as meaning the science of force, statics as a branch of dynamics dealing with forces in equilibrium (not necessarily at rest), and mechanics in its original sense as relating to machinery or mechanism of any sort.

This divergency may seem a mere matter of words, but it implies all the difference between a correct and a faulty scientific outlook—a very serious matter, especially in the elementary stages or at the foundation of a subject, as the whole of what follows depends on it. One cannot help thinking that, after all, the intention in separating statics from dynamics is only to hide certain difficulties for the time being which are bound to crop up sooner or later, and eventually loom greater than ever.

Such terms as reaction, moment of inertia, etc., are thus difficult to understand, their descriptions being confused and even contradictory, and they do not always convey a very clear idea of what is meant. Then the different ways in which they are applied under different conditions are very discouraging. The present article is an attempt to classify the different ideas involved as first principles so that they can be more readily recognised as such and applied as required.

Elementary Notions

Force cannot be defined, but is recognised as the cause of movement. Movement can only be recognised as *relative* between two material bodies. It does not follow from this that we must be ignorant of the force holding two bodies together, as a stone lying on the ground, for we are now quite familiar with the force of gravity, and we know that it holds the stone and the earth together.

In some text-books force is described as that which tends to move a body at rest, to stop a body in motion, or to alter the course of a body in motion. The last two statements seem to the writer to be easily understood corollaries from the first, and as a matter of fact we know of no such condition as "at rest." Such a statement taken literally therefore soon leads to difficulties. Both statements as to the nature of force are given, however, as representing respectively what may be termed that of the dynamic school and that of the static school, as together they help to explain one another. A single force acts in a straight line, any movement other than in a straight line requiring more than one force to account for it.

Force can only act in one of two ways, either drawing two material bodies together or forcing them apart, and it is well to consider here that there are different kinds, or what may be termed sources, or rather reservoirs, of force which are distinguished by different names such as Gravity, Elasticity, Inertia, Cohesion, Heat, etc., as there are certain peculiarities inherent in each which sometimes qualify their action. The magnitude of a force can be measured by comparison (on a balance or scales) with a recognised standard unit such as a lb. weight, which represents in a palpable form the amount or magnitude of attractive force pulling the lb. weight and the earth together.

From the last statement we have what are termed Action and Reaction. The earth has exactly the same attraction for the weight as the weight has for the earth, but the relative amount of movement being indirectly as the masses of the two bodies, the movement of the earth is negligible, and is in any case only local owing to the elasticity of the earth's crust. The lb. weight being the cause in this case is termed the active force or Action, and the earth coming up to meet it is called the Reaction. When the two bodies meet, the two forces balance one another, relative movement ceases, and the forces are said to be static (standing).

No force can come into play in any direction without producing exactly the same force in the opposite direction (Action and Reaction, Conservation of Energy), thus the action above described was possible owing to some previous force raising the lb. weight, forcing the lb. weight and the earth apart, as when you raise a beam on to its supports you press the earth down and press the beam up, and when it is placed on its supports the weight of the beam, acting through the supports, presses the earth down and the earth presses it up: the two forces are then said to be balanced, for no further relative motion is observed; but if the force of cohesion in the supports is not sufficient to keep the beam and the earth apart, movement takes place and the structure collapses.

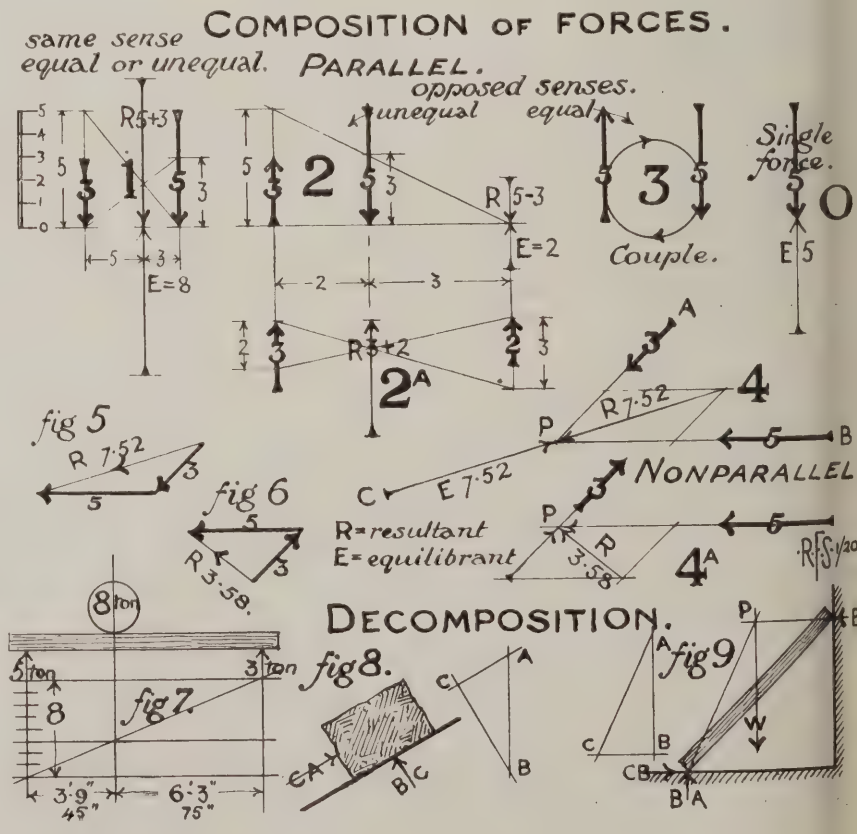
The *raison d'être*, then, of statics is teach us how to produce equilibrium the forces acting on a structure, and th after to make the various members str enough to resist the forces acting in th

Internal forces acting in the mem of a structure, as in the supports in illustration, are called stresses, and m be either compressive or tensile; before we consider these we must first c sider some effects produced by differ methods of grouping and applying fo to a body.

The whole subject can be treated shortly under the heading Composi and Decomposition of forces. The w "resolution" was formerly, and is used instead of "decomposition"; latter, however, is more expressive of w is intended, and it has been adopted various writers. A single force can expressed graphically by a straight representing its magnitude to scale, an arrow head shows its direction or s of action. It is conceivable that any n ber of forces may act on a body at time in many different lines and sen so, to simplify the geometric construc of such a confusion, it is necessary consider forces acting only in one p at a time (coplanar); and as most p tical questions occur under this condi it is not only convenient but comprel sive, and we shall find that when we mastered the manipulation of such fo the combination of forces acting toget but in different planes, is a comparati simple matter.

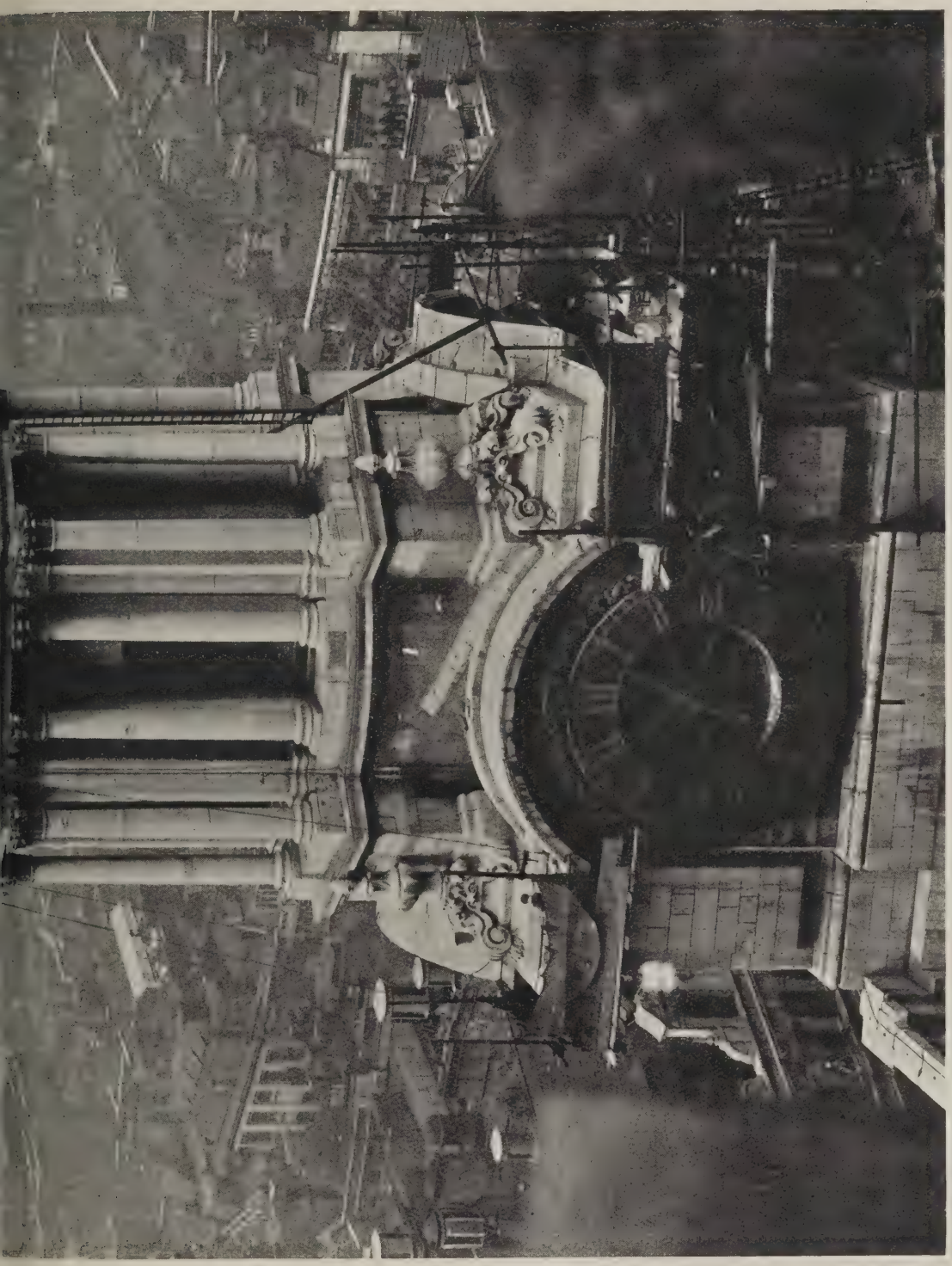
Composition and Decompo tion of Forces

Note.—In the illustration, the arrows for each case as numbered, 1 t represent pairs of forces acting toget the length of the arrows representin



English Renaissance Architecture. I.—South-West Tower of St. Paul's Cathedral

Sir Christopher Wren, Architect



Exterior views of St. Paul's seldom possess as much architectural value as this one, which shows more clearly than any other we have seen the details of the more southerly of the twin towers at the west end of the cathedral. Of special interest, also, are the sets of scaffolding arranged respectively for the repair of the stonework at and below the level of the clock, and for the re-gilding of the colossal pineapple at its summit. The photograph was taken from the "stone gallery" of the dome.

ıle and the number on them represent-
ɜ, numerically, their respective magni-
ies, and the arrow heads indicate their
ıse of action. The letter R indicates
ɜir Resultants and the letter E their
ıuilibrants.

By Composition is meant the combining
a number of forces into one force (if
ssible), or a couple that will have the
ne effect on a body as the separate
ces acting together. This one force is
led the Resultant of the system, and the
ginal forces are called Components.

By Decomposition (Resolution) is meant
breaking up of a single force into two
more forces that will, when acting
ɜther, have the same effect on a body
the original force. These new forces
called components of the original
ce, and are usually qualified by some
h adjectives as vertical, horizontal,
rmal, etc., according to the purpose for
ich they have been created.

The composition and resolution of
ces is usually restricted to the con-
eration of the triangle of forces, which;
wever, is only a scrap of the subject
ıling with one particular case (Case 4
the illustration, page 410), instead of
ıling with the whole subject, so that a
dent may grasp it as a complete idea.

Let us consider a body acted on by any
mber of coplanar forces at different
gles. Then the following two questions
sent themselves: Is the system in
ıilibrium? and, if not, what is required
produce equilibrium? both of which
ı be answered by the composition of
ces alone, as here described. Any two
ces acting together must (a) have a
sultant, as in cases 1, 2, and 4; (b) form
Couple as in case 3; or (c) be in Equili-
um as in case 0. No other arrangement
a pair of forces is possible. If, there-
e, starting with any two forces, we find
ɜir Resultant, pair it with the next, and
on in turn through the whole system,
n the Resultant of the last pair will be
resultant of the whole system, unless,
already stated, it happens to end in a
ıple or be in a state of equilibrium.
y pair forming a couple (case 3) must,
course, be avoided till the end.

These cases will now be described
arately. Nos. 1, 2, and 3 are pairs of
rallel forces, No. 4 non-parallel.

Case 1.—Two parallel forces, of equal
unequal magnitude, both acting in the
ne sense, have a Resultant equal to
ir sum, acting somewhere between
m, at a distance from each indirectly
the forces themselves. The line of
ion of the Resultant can therefore be
nd graphically by simply reversing the
ition of the arrows representing the
ces and joining their extremities with
gonals as shown. The Resultant acts
ough the intersection of the diagonals.
merically, if we call the two forces A
d B, and the distance between them l,
Resultant = A + B and acts at a dis-
ce from B $= \frac{Al}{A + B}$.

Case 2.—Two parallel forces of unequal
gnitude, and acting in opposite senses,
ve a Resultant equal to their difference,
ing in the same sense as the greater,
d acting on the opposite side of the
ater from the lesser, at a distance
ich can be found graphically by
nging the position of the arrows as
ore, and drawing lines through their
remities forming an angle, through the
ersection of which the Resultant acts.
merically, if we call the lesser force A,
greater force B, and the distance
between them l, then the Resultant = B — A, and acts at a distance from B, in the direction away from A $= \frac{Al}{B-A}$.

This result is rather difficult to realise at first, and it may be helpful to compare it with Case 2A, which consists of the smaller force and the equilibrant of case 2 set at their proper distance, which will then be recognised as belonging to case 1, and the Resultant will be found to be the equilibrant of 5 in case 2.

Case 3.—Two parallel forces of equal magnitude acting in opposite senses. This is called a Couple, and it is easily seen to have a turning effect. No single force will equilibrate a couple. Another couple of equal moment and opposite sense which will be explained later must be added. The magnitude or moment of a couple equals one of the forces multiplied by the distance between them.

Case 4.—Two forces of equal or unequal magnitude and at any angle with one another have a Resultant, to find which and its line of action the parallelogram of forces is generally used. This must not be confused with the polygon of forces, with which it has no connection; it is used because it seems to be more easily understood than the triangle of forces which is a polygon of forces. To use the parallelogram of forces the lines of action of the two forces must be produced, if necessary, to meet in P, their point of action, from which must be set off lengths representing the two forces, to scale, and the parallelogram completed as shown. The diagonal will then represent the Resultant in magnitude, line of action, and sense.

An examination of case 4A will show that some care must be exercised in placing the forces so as correctly to indicate the position and sense of resultant, the secret of which is to make the arrows representing the forces always point towards P, when the resultant will also point towards P: this can be done under any conditions by producing one or both forces backwards, if necessary, as shown in case 4A, when the two forces and resultant all point to P. The Resultants for cases 4 and 4A can also be found by the triangle of forces (Figs. 5 and 6). These four cases exhaust the possibilities of the subject, and by this means a system of any number of forces can be solved by taking the forces in pairs as described. As this, however, is rather a cumbersome process, and may be termed a sort of retail method, the writer hopes to show in a future article that there are only two fundamental principles involved, first the triangle of forces which gives rise to the Polygon of forces for summation, and second the moment of a force which gives rise to the Funicular Polygon for summation, and that by means of these two principles the simplest and most complicated systems of forces can be solved in a more wholesale manner.

Decomposition of Forces.

This is simply the reverse of composition, and is of great utility. Three examples are given. Fig. 7 shows a beam supporting a concentrated load of 8 tons on a span of 10 ft. at 3 ft. 9 in. from left-hand support. The load acting vertically downwards must be equilibrated by a similar force acting upwards; this, however, has to be decomposed into two forces acting at the supports called the reactions. Their sum will therefore equal 8 tons. This will be easily recognised as the reverse of case 1. The reactions are inversely as the distances between them and the load. The left-hand reaction is therefore to the load as 75 is to 120 and $= \frac{75 \times 8}{120}$ tons = 5 tons, and the right hand reaction equals the remainder 3 tons.

This can be calculated graphically as follows: Set up at either support a line representing the load to scale, draw a diagonal as shown, and where it cuts the vertical line through the load draw a horizontal line which will divide the load line into two parts representing the two reactions to scale. The larger will be the reaction nearer the load.

Fig. 8 represents a block of stone resting on a sloping support (a step resting on a steel stringer would be a practical example). The weight of the stone forms a vertical downward force. To decompose this into normal and parallel components, draw the triangle of forces making A B represent the weight of the stone to scale, then draw A C parallel and B C normal to the slope. C B will represent the normal pressure, B C its equilibrant, and the tendency to slide down the slope will be represented by A C and resisted by C A.

Fig. 9. This case is peculiar and important, and should be familiarised. It represents a plank or joist supported on a floor and leaning against a wall, the force W produced by the weight of the plank, which passes vertically through the centre of gravity of the planks, is prevented from falling by the horizontal reaction of the wall B C, these two forces meet in P, through which another force must come from the floor support through B A. Draw the triangle of forces making A B = W, A C parallel to the sloping line through P and B C horizontal. Then B C = horizontal component acting from the wall, and C A the component acting from the floor. The latter again can be decomposed into a vertical and horizontal component at the floor = B A and C B respectively.

Weekly Housing Reports.

New housing schemes submitted to the Ministry of Health during the week ended March 13 numbered 119. The total number of schemes submitted by local authorities and public utility societies is now 9,164, comprising about 63,800 acres. The schemes approved now number 5,142 and comprise about 42,000 acres. One hundred and eleven lay-out schemes were submitted and 83 approved during the week, bringing the total number of lay-outs submitted to 3,120 and the number approved to 2,529.

House-plans representing 7,114 houses were submitted during the week, and plans for 7,018 houses approved. The total number of houses represented in all the plans now submitted is 152,454, and in the plans approved 139,283. During the week tenders were submitted for 10,708 houses. Tenders for 10,332 were approved, bringing the total number of houses in tenders submitted to 82,392, and in tenders approved to 75,142. At March 1, 511 houses had been completed ready for occupation, and 1,377 were in the final stages of construction. The total number of houses under construction, but not finished, was 9,125. Contracts had been signed for 32,586 houses. New schemes submitted during the week ending March 20 numbered 148. Schemes submitted by local authorities and public utility societies now number 9,285 and those approved by the Ministry 5,274.

Correspondence

Architects and the People's Health

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Crossley Davies, in his very able article in your issue of March 17, suggests that the question of registration should be approached anew from the standpoint that it would not be for the profit of the profession but for the protection of the people. I very cordially agree with this view, which was promulgated more than thirty-five years ago by the Society of Architects, and which has been consistently maintained ever since. In fact, this view is so old as to be new in the minds of some of the present advocates of registration.

The arguments used by Mr. Crossley Davies in favour of registration are also those which have been adduced periodically with great regularity for many years. For a long time past the Society of Architects has expressed and maintained the opinion, which has never been controverted, that the profession as a body is in favour of registration.

Having reached this point the only question to decide is how best to carry it into effect. It is here that the real difficulty begins, because it is on this point that there is at present a difference of opinion in principle between the R.I.B.A. and the Society. The registration policy of the R.I.B.A., as I understand it up to the present time, is for a scheme of voluntary registration under its charter, which would be, in effect, voluntary registration within the Institute; whereas the policy of the Society is, and has always been, the statutory registration of all architects—that is to say, of every member of the profession who can prove that he is a bona-fide architect. With the Society it is a question of principle, both as regards the nature of registration and its scope, and the Society must be convinced that there is some better method of securing this object than the one which it has maintained for the whole period of its existence before it can commit itself to any other policy.

The Society is aware that Parliament will pay no heed to divided counsels, but does not the title of Mr. Crossley Davies's article suggest that the time has come when the matter might be dealt with as a Government measure? The Ministry of Health has taken an active part in the proposals for the registration of members of another profession connected with the public health—that of nurses—where I believe the position was exactly the same, inasmuch as there were two professional bodies each with a different proposal for accomplishing the same end, and I think I am right in saying that the matter was finally settled by the Ministry of Health undertaking a Government measure for the statutory registration of nurses.

I submit that this might very well form a precedent, if one is required, for the Ministry of Health to concern itself with the proposal for the statutory registration of architects, who are equally, if not more, vitally concerned with questions affecting the health of the community than the members of any other profession.

In my view—and I speak as one with long personal experience and knowledge of the feelings and views of many of those who comprise the bulk of the profession, viz., the provincial architects—nothing less than registration by statute will satisfy the profession as a whole. The Society is sufficiently wideawake not to run its head against a brick wall, but there is no reason why it should not climb over it with the help of a further friendly "leg-up" by architects who are in sympathy with its progressive policy in this and other directions.

C. MCARTHUR BUTLER,
Secretary of the Society of Architects.

Schools of Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The recent correspondence in your Journal shows confusion in the minds of some as to the past history of the different schools of architecture in England and the dates when they were started. The following notes may, perhaps, clear away some misconceptions.

The Royal Academy has for very many years had professors of architecture—Charles Robert Cockerell, for instance, was elected professor there in 1839—but I believe that the architectural studio was not opened until the late 'sixties of the last century, when R. Phené Spiers was appointed its first master. Some one better informed will correct me if I am wrong as regards this. The R.A. School was, and is still, only a night school.

About 1890 the late R. Norman Shaw and Sir Thos. G. Jackson made a brave attempt to have the school open in the day time. A petition was extensively signed by the leading architects of the day urging that course. Norman Shaw, in an undated letter which lies before me, wrote: "There was an endless Committee at the R.A. three or four years ago to reform and amend everything, and I have recently found out that they asked . . . again and again, 'Don't you want anything more for your architectural students, don't you want more teaching or further advantages of any kind?' and his answer invariably was, 'No; architectural students can't come in the daytime.' Now some of them say, 'Students doubtless will come fast enough—if the doors are open!'" and so on. . . . P.S.—I think if we had a separate memorial, were it only signed by a dozen, it would be most useful. Twenty signatures would make it even more valuable! ! !" I was asked to obtain signatures to the students' petition and collected, if I remember rightly, over a hundred. Both petitions were presented to the Council of the Academy by Shaw—and were pigeonholed. The architectural school, unlike the drawing, painting, and modelling studios of the Academy, remains closed all day long. This attempt by Norman Shaw to advance higher architectural education is little known, but deserves to be recorded, although, unfortunately, it failed.

The first Chair of Architecture in England—outside the Academy—was founded at University College, London, in 1841. Thomas L. Donaldson was the first holder, and he retained the chair until 1865. The collection of lecture diagrams which he prepared, and which he bequeathed to the college, still form a valued possession of its school of architecture. The work of Donaldson and his successors consisted only of evening—or late afternoon—lectures. Not until 1903 were da courses instituted.

At King's College a Chair, with the tit of "Art Construction," was established 1840, and was held by William Hosk until 1861. His successor was Profess Kerr, during whose tenure—in 1886—th title was changed to "Architecture ar Building Construction." In 1913 th schools of architecture at University Co lege and King's College were ama gamated, and work was started in Decem ber of that year in the new building University College provided by th generosity of Sir Herbert Bartlett.

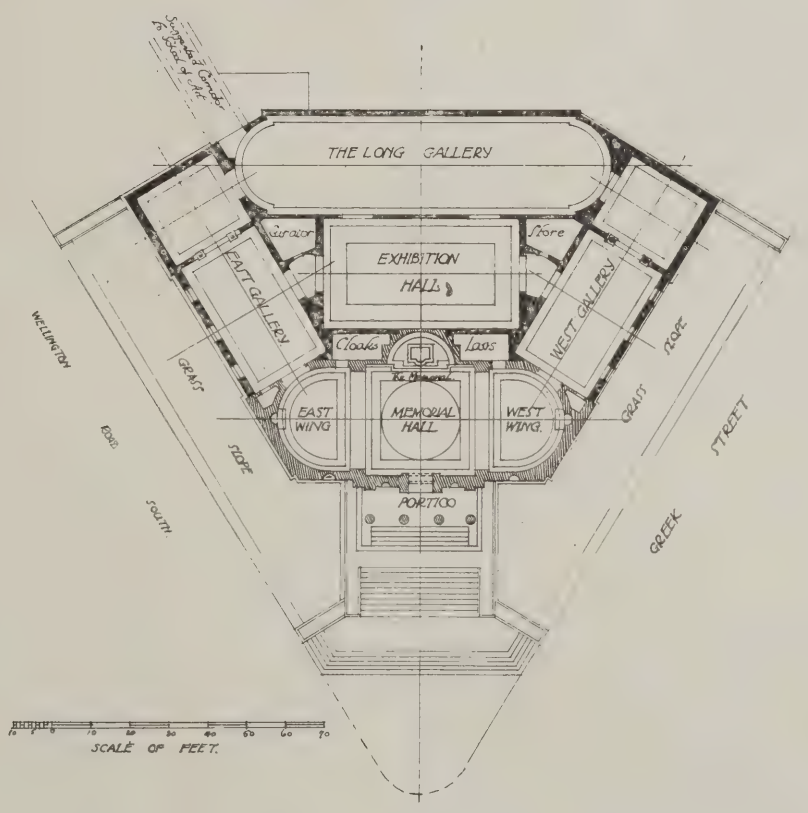
The Architectural Association, found in 1847, was, for many years, for "mutu self-instruction," members meeting t gether to discuss and help one anothe The advantages of these semi-inform gatherings were quickly recognised, th numbers of the Association rapidly i creased, and more formal classes ar lectures became a necessity. I knew mo about the work of the Association son thirty years ago, when I was a "Visitor at one of the design classes and Editor "A. A. Notes," as the official organ w then called. The greater part of th teaching was done by voluntary workers at first entirely by such. In 1891 the dec sion was come to that all labourers we worthy of their hire—at least of a hire some sort. The proposed changes we outlined in a paper read before th R.I.B.A. by Mr. Frank T. Baggallay, th President of the A.A. in 1891 (s R.I.B.A. Journal, June, 1891, and "A. Notes," July, 1891.) The scheme was compromise. The Council was divide Some of the members of the A.A., bo inside and outside the Council, were favour of a day school being started once. But the timid ones and the rea tionaries gained the day, and the we known day school of the A.A. was n started until ten years later.

In June, 1894, I was appointed to th Roscoe Chair of Art at University Co lege, Liverpool, now the University Liverpool. The work of the chair had pr viously been confined to lectures painting and art generally; my predece sors being Sir Martin Conway ar R. A. M. Stevenson, cousin of Robe Louis. My appointment gave me th opportunity of instituting a day school architecture. For several years my scho at Liverpool was the only one in Engla in which complete day courses were hel In my first session I had only one stude taking the full two years' course, M B. M. Ward. The next session (1895 as stated by Mr. F. Jardine Barnish your issue of the 17th inst., I started wi half a dozen, and when I resigned in 190 on my appointment to the Chair at Ur versity College, London, I had twent four or twenty-five day students, ar about the same number in the eveni design class, fifty in all.

The Chair at the University of Ma chester was started in the same year, 190 Professor Capper being the first holde This century has seen many other chai founded and complete day courses ins tuted. I hope the time is not far dista when every town of importance in En land—in Great Britain and Ireland—w have its school of architecture, giving fu and comprehensive courses of both da and evening training to students. Nothi is more likely to weld the professi together and produce that "unity" whic

War Memorials. 4.—Stockport War Memorial.

Halliday, Paterson, and Agate, Architects.



Memorial structures designed to be useful as well as commemorative are as yet rather scarce, and the present example derives the more interest from this fact. The plan shows that the architects have made very ingenious use of a rather difficult site. Classical simplicity and restraint mark the exterior design.

all desire than a sound and universally lied scheme of architectural educa-

lay I conclude this long letter with a rt extract from the paper on "Unity" ad at the R.I.B.A. in December, 1917? course of training in a school of archi- ure should, I submit, be compulsory all students. . . . It is useless to ect unity amongst architects so long here is variance as regards the essen- s of architectural education, and some dents receive no training at all except it they obtain in an architect's office."

F. M. SIMPSON.

New Books

"Concise Costing for Housing."

very industry would stand on a much ier basis if it would adopt a sound ntific method of costing. If charges e founded on careful and complete as- ainment of the cost of every detail kruptcy would become rare, because kless and ruinous competition would ost entirely cease, and tendering, ch is now very largely a matter of more less clever guesswork, would become ost automatically precise.

s every building contractor and every hitect knows, the ascertainment of ts is no simple matter. So numerous l of such complexity are the factors in- ved in compiling a bill of quantities, t unless the work is done scientifically l systematically, unless due weight and more is assigned to each item and each ail, the total will be seriously wrong. nce, in great measure, the remarkable crepancies in tendering.

t has been said, no doubt with con- erable truth, that every estimating clerk "a system of his own." More often, it y be supposed, he works by a sort of tinct: or if really by his own system, n in very few instances can that system ve been sound. That is obvious from the ects.

Mr. T. Sumner Smith has analysed with at patience and skill the entire contents bills of costs, and has classified the data a series of tables which will prove of the nost value in preparing bills of quanti- s. The author is doubtless justified in uming that the preparation of bills of antities which are at once practical and entific is really the first step towards nomic building. He shows, too, that ta correctly ascertained and scientific- y assembled will serve a four-fold pur- se: first, as a basis for an accurate imate of the cost of the intended ucture; secondly, for ordering materials d for their delivery on the site at the oper time; thirdly, for analysing and cording costs; lastly, as a schedule of ices for the prompt and equitable adjust- ent of variations on the contract. The inciples that Mr. Smith has so carefully certained and has set forth so clearly are rectly applicable to the housing ques- n, in which the ascertainment of cost d the prevention of any kind of leakage e matters of vital importance. It is with using that this book is directly and ecifically concerned, and to which it will nder immediate and important service; it the principles deduced are applicable every class of building, just because ey *are* principles, scientifically set forth. he eight chapters into which the treatise divided bear the following headings: ills of Quantities and their Uses; Scien- ic Costing; Economical Building; Eco- omy in Design; Contract Agreements; ational Builders' Bank; Constants of abour and Bonuses Based on Output; Conclusions. Under each of these head- ings the author has many shrewd and practical observations, revealing extra- ordinarily clear perception and firm grasp of his subject. The book, to which Mr. Raymond Unwin contributes a short com- mendatory preface, is as helpful as it is opportune, and the principles it advocates have been approved by the Housing Department of the Ministry of Health. Eleven pages of cottage designs illustrate the authors' theses; and altogether his book seems destined not only to do the State some service in the present crisis, but also to revolutionise costing and quan- tity surveying by supplying the data for thoroughly scientific treatment.

Concise Costing for Housing. Based on an Improved System of Quantity Surveying. With Explanatory Tables, Illustrations, and Practical Examples. By T. Sumner Smith M.Q.S.A., F.I.Ar. With an Introduction by Raymond Unwin, F.R.I.B.A. London: Technical Journals, Ltd., 27-29, Tothill Street, Westminster, S.W.1. Price 5s. 6d. post free.

Publications Received

Premier Congrès de l'Habitation. Du 9 au 12 Octobre, 1919. Compte Rendu des Travaux. Preface de M. Edouard Herriatt Députe, Maire de Lyon, Ancien Ministre. Imprimerie Noirclerc and Fénétrier, 3, Rue Stella, Lyon.

The Question of Thrace. Greeks, Bul- gars, and Turks. By J. Saxon Mills, M.A. and Matthew G. Chrussachi, B.A. Price 2s. 6d. net. Edward Stanford, Ltd., 12, 13, and 14, Long Acre, W.C.2.

Description of the Residence of Sir John Soane, R.A., Architect. Edited by Arthur T. Bolton, F.S.A., F.R.I.B.A., Curator of Sir John Soane's Museum. 10th Edition. Price 1s. net. Sir John Soane's Museum, 13, Lincoln's Inn Fields, W.C.

Price of Building Materials

The rise in the cost of building mate- rials in London is the subject of a White Paper, which shows that there was a fur- ther advance under many heads between November and February. Bricks, cement, lime, slates, lead, nails, white and red lead, and plaster; and baths, kitchen-ranges, sinks, and drainpipes all increased in price during the three months. Examples of the rise that has taken place on pre-war prices are given below:

	July, 1914. £	s.	d.		Feb. 1920. £	s.	d.
Bricks—Fletton (1,000)	1	14	0	...	3	2	6
Stocks (best) (1,000)	1	16	6	...	4	10	0
Sand (yd.—cube)	0	7	0	...	1	3	6
Portland cement (ton)	1	17	0	...	3	18	6
Lime (ton)	0	14	0	...	3	1	0
Slates (1,200)	11	13	0	...	35	0	0
Tiles (roofing)—Broseley (1,000)	2	10	0	...	6	15	0
Yorkshire (red) (1,000)	1	10	0	...	3	17	6
Timber—Carcassing (Standard)	15	0	0	...	45	0	0
Yellow deal (Standard)	22	0	0	...	55	0	0
Floor boarding, 1in. plain (square of 100ft.)	0	15	0	...	2	5	0
Lead—Sheet (ton)	23	0	0	...	62	10	0
Pipe (in coils) (ton)	23	15	0	...	61	0	0
Rainwater good—2½in. down pipe (yd.—linl.)	0	0	11¾	...	0	4	2¼
5in. gutter (ditto)	0	0	9½	...	0	3	11½
Baths, 5ft. taper (each)	3	3	0	...	10	11	9
Kitchen range, 36in. (each)	1	16	0	...	7	0	0
Cut nails (per ton)	12	5	0	...	33	0	0
Drainpipes, untested 9in. (yd.—linl.)	0	2	4½	...	0	7	7¼
Sinks, 30in. by 18in. by 5in. (each)	0	5	10	...	1	11	0
Stone—Portland (ft.—cube)	0	2	4½	...	0	4	3
York (ft.—cube)	0	2	10	...	0	11	9
White lead (ton)	29	15	0	...	85	15	0
Red Lead (ton)	28	10	0	...	69	15	0
Plaster, seconds (ton)	1	4	0	...	2	14	0

Some of these prices have been dis- puted; for instance, the Dorking Grey Stone Co., Ltd., contest the statement that the cost of lime had advanced from 14s. per ton before the war to £3 1s., and assert that the price in July, 1914, was 28s. a ton.

Legal

Builder's Claim

Springett v. Herbert.

Official Referee's Court: Before Mr. Verey

In this case the plaintiff, Mr. Frederick Springett, builder and contractor, of Penge, claimed from Mr. George Herbert, auctioneer and estate agent, of Baker Street, Portman Square, £100 balance of account for work done and materials sup- plied in connection with repairs of pro- perty in Anerley and Maida Vale.

It appeared that at the request of Mr. Herbert, plaintiff gave him an estimate for certain work on the premises in question, and the work, according to plaintiff's coun- sel, was actually in progress before the contract which formed the main question in the dispute between the parties was signed. One of the terms of the alleged contract was that the work should be com- pleted within five weeks of the date of signing. As to this, plaintiff was in default, but he said that the delay was consequent, partly, upon the action of the defendant in calling his (plaintiff's) men away to other work and his failure to sup- ply wallpaper according to agreement and until after the date for completion.

The defendant, under an order of Master Chitty, had paid the plaintiff's solicitor the sum of £18 16s. 11d., which, he contended, together with the sum of £293 for which credit had been given by plaintiff, was sufficient to satisfy his claim and the action, and he counter-claimed £49 for loss of rent consequent upon his inability to let owing to the non-comple- tion of the work. Defendant also com- plained that certain of the charges were unreasonable and excessive, and that some of the work was faulty.

The Official Referee, by a reserved judg- ment, which was not delivered in court, awarded £5 0s. 6d. to the plaintiff with costs, and £10 to the defendant on a counter-claim, also with costs. The costs in both cases being on the High Court scale.

British Engineering Standards Association

The Councils of the Technical Institu- tions who founded the Association have made their new nominations, which take effect at March 31. The Main Committee will then be constituted as follows: Sir Archibald Denny, Bart. (Chairman), Sir Maurice Fitzmaurice, C.M.G. (Vice-Chair- man). Nominated by the Institution of Civil Engineers: Sir John Aspinall; Sir Arthur Duckham, K.C.B.; Sir William Ellis, G.B.E.; Sir William Matthews, K.C.M.G.; Mr. Alexander Ross; Dr. W. C. Unwin. Nominated by the Institu- tion of Mechanical Engineers: Sir Henry Fowler, K.B.E.; Sir Vincent Raven, K.B.E.; Dr. William H. Maw. Nomi- nated by the Iron and Steel Institute: Dr. Arthur Cooper; Mr. M. Mannaberg; Mr. Benjamin Talbot. Nominated by the In- stitution of Naval Architects: Sir W. E. Smith, C.B.; Sir Thomas Bell, K.B.E. Nominated by the Institution of Electrical Engineers: Col. R. E. Crompton, C.B.; Sir John Snell; Mr. C. H. Wordingham, C.B.E. Co-opted by the nominated mem- bers to represent the Federation of British Industries: Mr. F. W. Gilbertson; Mr. F. R. Davenport. Co-opted by the nomi- nated members: The Hon. Sir Charles Parsons, K.C.B.; Sir Richard Glazebrook, K.C.B.; Sir Robert Hadfield, Bart.

Town Development and Housing

Sunderland.

The Ministry of Health have agreed to the erection of houses on a site at Pallion.

Westminster.

The City Council is adapting casual wards to provide housing accommodation.

Selby.

The U.D.C. have resolved to ask the Ministry of Health for sanction to borrow £100,000 at 6 per cent. on Housing Bonds.

Horden.

The Horden Collieries Company have offered to build up to 200 houses and hand them over to the Council, charging 5¾ per cent.

Hathern.

The Parish Council have approved plans of three sites for sixteen houses sent by the Loughborough Rural District Council. Both Councils have agreed to the site.

Ayr.

The Scottish Board of Health have approved the housing scheme for Ochiltree, Coylton, Corsehill, and Dalrymple.

Spilsby.

With regard to the £100,000 housing scheme, it is estimated that the houses at Eastville will cost £711 each, without the land, and those at Wainfleet £775.

Benfieldside.

Practically the whole of the building scheme of the U.D.C. has been approved. The Council propose to build 150 houses at a total cost of between £135,000 and £140,000.

Llandudno.

The U.D.C. have accepted a contract for the erection of twenty houses of the parlour type, at a cost of £725 per house. The buildings will be of hollow concrete blocks.

Loughborough.

The Housing Commissioner has approved plans for twenty-eight houses, also the general lay-out. Schemes for the erection of 500 houses have now been approved.

Margate.

It is proposed to build a super-cinema and café in Cecil Square, Margate. The cinema is to have a seating capacity of 2,050, and the café and tea rooms 600.

Kegworth.

The Castle Donington R.D.C. have received sanction to a loan of £1,054 for the purchase of a site for a number of houses at Kegworth. The Commissioners have also approved the site for twenty-four houses at Castle Donington.

Rebuilding Ruined Ypres.

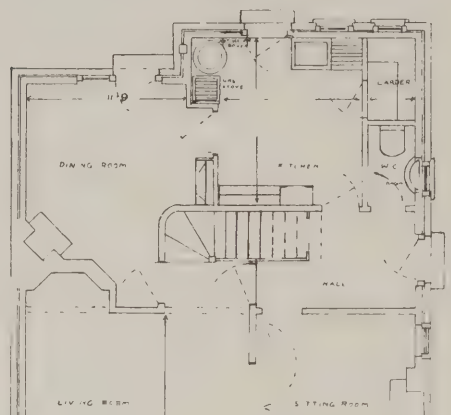
The Government and the municipal authorities are agreed that the ruins of the Cloth Market and the Church of St. Martin shall be left in their present condition and surrounded by a belt of grass. The rest of the town will be rebuilt on a modified plan.

Hemsworth.

The R.D.C. have provisionally accepted tenders amounting to £123,767 for the erection of 132 houses and two combined houses and shops at South Elmsall. The Council have decided to take up loans amounting to £338,555 for houses, etc., and £3,750 for land.

Erdington.

A site in Mere Road, Erdington, has been chosen for the erection of dwelling-houses for the Corporation by ex-service men who have been attending classes in building, which have formed part of the scheme for the training of disabled men in the Midlands.



HOUSE AT LEIGH-ON-SEA, GROUND-FLOOR PLAN.

Loughborough.

Negotiations have taken place between the Housing Committee and local builders whose top prices for houses at first were £1,100, exclusive of the land and other expenses. The price now agreed upon for twenty-eight houses is £857 10s. A number of sites have been suggested to the Housing Commissioner for approval.

London Skyscrapers.

Sir Arthur Fell, in the House of Commons, asked the Parliamentary Secretary to the Ministry of Agriculture if he was aware that houses are threatened to be erected in Regent Street eight storeys high in place of the present buildings of four or five. Sir Arthur Boscawen replied: I am informed that the Comm sioners of Woods have not sanctioned, do not contemplate sanctioning, the er tion of any buildings on the Crown p perty in Regent Street higher than new buildings already erected.

Swansea.

The Ministry of Health is further c sidering the Swansea Corporation's ho ing contract. It is understood that contractors are asking for £13,000 ex per 150 houses. The Housing Comm sioner, who has visited Swansea, is porting on the matter.

Paris Improvements.

An important meeting is being held, p sided over by M. Autrand, Prefect of Seine, to discuss the sixty-seven pl which have been put forward for the i provement of Paris. Some of these aff the city itself, and others deal with suburbs. A large number, however, d solely with the proposed exhibiti palace, designs for which are to be s mitted by architects in an open comp tion. The necessity of alterations to bridges and quays along the Seine will a be discussed. Considerable attention lately been given to the desirability of taining as many open spaces in the neig bourhood of Paris as possible, and a nu ber of schemes are on foot for the creati of new sports grounds and also of a n "Champs de Mars" for milit manœuvres. The greatest improvement all, however, will be the creation of gard cities for workers in the suburbs based the schemes which have already been c ried out in England. Another propos improvement is the construction of an el tric railway between Paris and Saint G main, which would really be an extensi of the Metropolitan. A departmental ro between Neuilly and the Forest of Sai Germain is also asked for, on the grou that such a road would serve 200 acres building ground, a tenth of which mig be set aside for worker's cottages. Reuter's Trade Service.

HOUSE AT LEIGH-ON-SEA, THE LIVING ROOM AND STAIRCASE. A. G. COFFIN, ARCHITEC

The Week's News

(Continued from page 400)

Furniture Guild.

proposal has originated at Manches-) establish among cabinet-makers an ıisation on guild lines to make house- furniture.

norial Gifts to Rochester Cathedral.

ro additional bells, a lectern, an alms several windows, and the nucleus of w reredos have been presented as war orial gifts to Rochester Cathedral.

War Memorial Competition.

chitects are invited to compete for the memorial for the town of Lockerbie. gns are to be submitted to an expert djudication.

Proposed Institute at Sanquhar.

institute is to be built at Sanquhar plans prepared by Mr. William , architect. It is designed as a war orial, and a considerable sum of ey has already been subscribed.

Cottage Hospital for Arran.

e war memorial for Arran is to take orm of a cottage hospital, with a cen- home for district nurses. The Mar- and Marchioness of Graham have ed to make available any site desired.

Art Gallery for Jersey.

e Jersey States have authorised a nittee to secure plans for a hall of and art gallery at St. Helier as a war orial, and have accepted the offer of and Mrs. F. W. S. Le Maistre of ooo as an endowment.

Church Stretton War Memorial.

e cross illustrated below is to be ed at Church Stretton, Shropshire, the designs of Mr. George Hubbard, I.B.A. In the inset design of a Celtic , Mr. Hubbard has departed from his l classical treatment of war memorials, and inclined to an early Celtic form of monument. The ancient ornament with which the work has been embellished by Mr. Hubbard is peculiar to the district.

New Buildings for London University.

It is understood that the new buildings for London University are to occupy some of the ground behind the British Museum. A proposal has also been made that some of the great houses of Bloomsbury should be acquired as hostels for the students.

Durham Architectural Appointment.

Mr. F. Willey, F.R.I.B.A., has been appointed principal educat on architect for the County of Durham. Mr. Willey will direct all work in connection with the planning, building, and repairing of school buildings and other educational institutions in the county.

Manchester Town Hall.

The Select Committee of the House of Lords which is considering the Manchester Corporation Bill has decided to allow the promoters to purchase land for the extension of the town hall, but not the triangular plot near the infirmary site. Further application must be made to Parliament for the erection of the town hall.

Roman Remains at Colchester.

Beneath the Roman street definitely traced across the Castle Park at Colchester, where excavations have been made, some burnt material has been discovered. This has suggested that the Roman remains were the foundation of buildings erected shortly after the destruction of the town in A.D. 61. Among the tessellated pavements unearthed is one in a fine state of preservation. Another section of pavement shows the footprints of animals that had strayed across the tiles while they were yet unfired. An apsidal-ended chamber has also been traced, and other finds include two piers of a gateway, specimens of pottery of the second and third centuries, a small terra-cotta funnel almost intact, over fifty Roman coins, including one of Nero, a Roman steelyard and buckle, etc.

Glasgow Architects' Annual Meeting.

At the annual meeting of the Institute of Architects, held in Glasgow, Mr. John Keppée, F.R.I.B.A., presided, and stated that large municipalities should distribute work among qualified architects. The Secretary (Mr. C. J. Maclean) submitted the report. A chapter is to be formed of the Institute of Scottish Architects, Glasgow District, and Mr. Wm. B. Whitie, F.R.I.B.A., has been elected president of this chapter.

Church Repairs.

The following grants have been made by the Incorporated Church Building Society: Towards building a new church at East Bolden, Co. Durham, £75, and St. Francis mission church at South Shields, £50; towards repairing St. Andrew, Litherland, Liverpool, £20; Holy Trinity, Selhurst, Surrey, £20; the Holy Cross, Thorn Falcon, near Taunton, £30; and All Saints, Croughton, Northants, £50. £10 was paid towards enlarging Christ Church, Bwlchgwyn, near Wrexham, £75 towards repairing St. Saviour's Church, Holloway, Middlesex, and £182 towards small repairs to sixteen other churches.

Government Stocks of Metals.

The following stocks (exclusive of old metal and scrap) in this country of soft pig lead and refined spelter were in the possession of the Minister of Munitions on March 1, 1920: Soft pig lead, 40,435 tons;

WAR MEMORIAL CROSS, CHURCH STRETTON, SHROPSHIRE. GEORGE HUBBARD, F.R.I.B.A., ARCHITECT.

refined spelter, 7,299 tons. A proportion of these stocks has already been sold to the trade for forward delivery. Since the stocks of virgin non-ferrous metals unsold under the control of the Government have now reached such proportions that they cease to be an important factor in the general stocks of such metals held in the United Kingdom, it is proposed to discontinue publication of these notices.

Institution of Civil Engineers.

At the last meeting of the Institution of Civil Engineers the following elections took place: Ten Members, forty-seven Associate Members, and one Associate. Fourteen Associate Members were also transferred to members and sixty-four students admitted.

Ulster Society of Architects.

Steady progress is still being made by the Ulster Society of Architects, which, with the influx of new members and associates, is numerically stronger than in any previous period of its history. Though nominally for 1919, the report of the Council actually embraces the period of war, and outlines a great deal of war work carried out in co-operation with the Minister of Public Health and the War Committee of the R.I.B.A. Consideration has also been given to various matters affecting the profession in Ulster. In conjunction with the Belfast Builders' Association the Council has revised and brought right up to date the conditions of contract, which have been approved by the Association and will form the basis of future agreements. The Council have also co-operated with the Library and Technical Committee of the Belfast Corporation in forming an architectural course at the Technical Institute. At the suggestion of the Council the Belfast housing work has been entrusted to a Board of Architects chosen from the Society by the Corporation and approved by the Local Government Board of Ireland. Suitable rooms for the meetings of the Society have been secured, and Mr. J. A. Johnson has been appointed secretary. The Londonderry Committee have secured the Londonderry housing scheme on similar lines.

Coming Events

WEDNESDAY, APRIL 7.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Results Achieved in Industry by Modern Methods," by Mr. J. F. Butterworth. 7.30 p.m.

FRIDAY, APRIL 9.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "The Uses of Concrete," by Mr. T. J. Clark. 6 p.m.

SATURDAY, APRIL 10.

Building Trades Exhibition.—Opening of the Exhibition at Olympia.

FRIDAY, APRIL 16.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "Submission of Plans to Local Authorities," by Mr. E. Fiander Etchells, Hon. A.R.I.B.A., Assoc.M.Inst.C.E., etc. 6 p.m.

MONDAY, APRIL 19.

British School at Rome Scholarships and Henry Jarvis Studentship.—Final examination at R.I.B.A. from April 19 to May 8. Full particulars from Mr. Evelyn Shaw, hon. general secretary, British School at Rome, 54, Victoria Street, S.W.

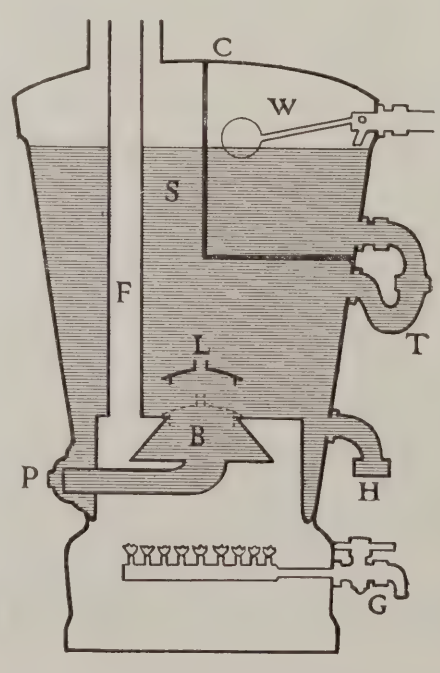
Hot Water Circulation for Housing Schemes

While very much ingenuity has been shown in developing schemes for supplying groups of houses with hot water derived from a central heating source, the older method by which each house has its separate installation is also receiving the attention of inventors. In this connection, it is of interest to mention the recently-introduced "Express" water heater, manufactured by the Martin Engineering Co., Ltd., 49, Theobald's Road, W.C.1.

The apparatus (see illustration) is so constructed that it embodies within itself the three essential elements of a hot water system, namely, the boiler (B), the storage cylinder (S), and the cold water supply cistern (W), which in ordinary circumstances are represented by the fire-back boiler in a kitchen range, the separate circulating tank some distance from it, and the supply cistern in the roof. By concentrating these parts in the manner shown, it would appear that an appreciable conservation of heat, as well as an equally perceptible economy in piping, are likely to result.

The heating is effected by means of gas burners placed immediately below the brazed copper boiler (to which the flow pipe is connected), the fumes being carried off by the flue pipe (F). In the boiler lid (L) there is a small tube, which acts as the return. A special feature of the "Express" water heater—all the interior joints of which are brazed—is the patented cold water cistern, fed by a ball tap. This cistern is fitted with a trap (T) which prevents the hot water from returning to it. The hot water supply pipe (H) is placed on a level with the top of the boiler, and may be connected by means of branch pipes with the sink, bath, and lavatory basin, according to requirements. The apparatus is, in fact, adaptable to all ordinary and reasonable demands.

An important advantage resulting from the construction of this heater is the ease with which the interior may be cleaned. After removing the cover (C), access to the boiler (the lid of which is detachable) is a simple matter, and the sediment from it can be readily swept out through the cleansing plug (P).



THE "EXPRESS" WATER HEATER.

Care should be taken to fix the h at a higher level than any of the dr taps. The manufacturers state tha "Express" water heater, which l capacity of fifteen gallons, will twenty-five gallons of hot water at a perature of 110 deg (Fahr.) in ten m after heating, and that it will ma water at any desired temperature c approximate gas consumption of 10 f hour. An actual test of a private ins tion showed that fifteen minutes lighting the gas—everything being c the temperature of the water was rai 130 deg. on a gas consumption of 32 ft. The water was then immediatel into the bath, which in ten minutes twenty-five gallons at a temperatu 110 deg. In order to suit the various lations of water companies, and the ticular needs of institutions and can the heater can be made of any capac strength.

Another speciality introduced b Martin Engineering Co. is the "Exp double service boiler, which has designed for use in flats. This is a smaller apparatus than that just desc its size being 14 in. by 11 in. Now th new social conditions have so imm increased the vogue of flats, this spe designed heating apparatus has a enlarged sphere of usefulness, meeti it does, a special need of the times.

The recently improved burner pr a Bunsen flame, and swings outward hinge so that it is easily kept Interlocking gas and water taps effec provide against accident as a result o lessness on the part of the user, and way tap diverts the hot water either sink in the kitchen, or to the bathroo Figures furnished by the makers sho by means of this boiler boiling wate be obtained in thirty seconds at a proximate consumption of 1 ft. of g gallon of water heated.

Obituary

Mr. Chas. Chittick.

We regret to record the death c Chas. Chittick, permanent directo chairman of Matthew T. Shaw anc Ltd., constructional engineers, of Mi E. The early years of Mr. Chi career were spent at the Royal Ar Woolwich, and the Thames Ironwork Shipbuilding Co., at Blackwall. I he was appointed general manag Matthew T. Shaw and Co., and bec partner in 1880. Under his super Messrs. Matthew T. Shaw and Co. i built and equipped new works at M (since considerably enlarged and m ised), where many important engin contracts have been executed.

Upon the death of Mr. Matthe Shaw in 1886 the business was con by Mr. Harry T. Shaw and Mr. C until 1895, when it was incorporate private limited company. Mr. Har Shaw retired in 1906, and Mr. C continued as managing director fro incorporation of the company until when he relinquished active manage retaining the position of perm director and chairman. The compan continue as hitherto under the same agement and under the direction o remaining directors.

SPECIAL BUILDING TRADES EXHIBITION NUMBER.

esday, April 7, 1920 Volume LI. No. 1318

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

DETAILS BY DE LA FOSSE (VIII.)

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 10.—Cloisters in the Convent of San Marco, Florence

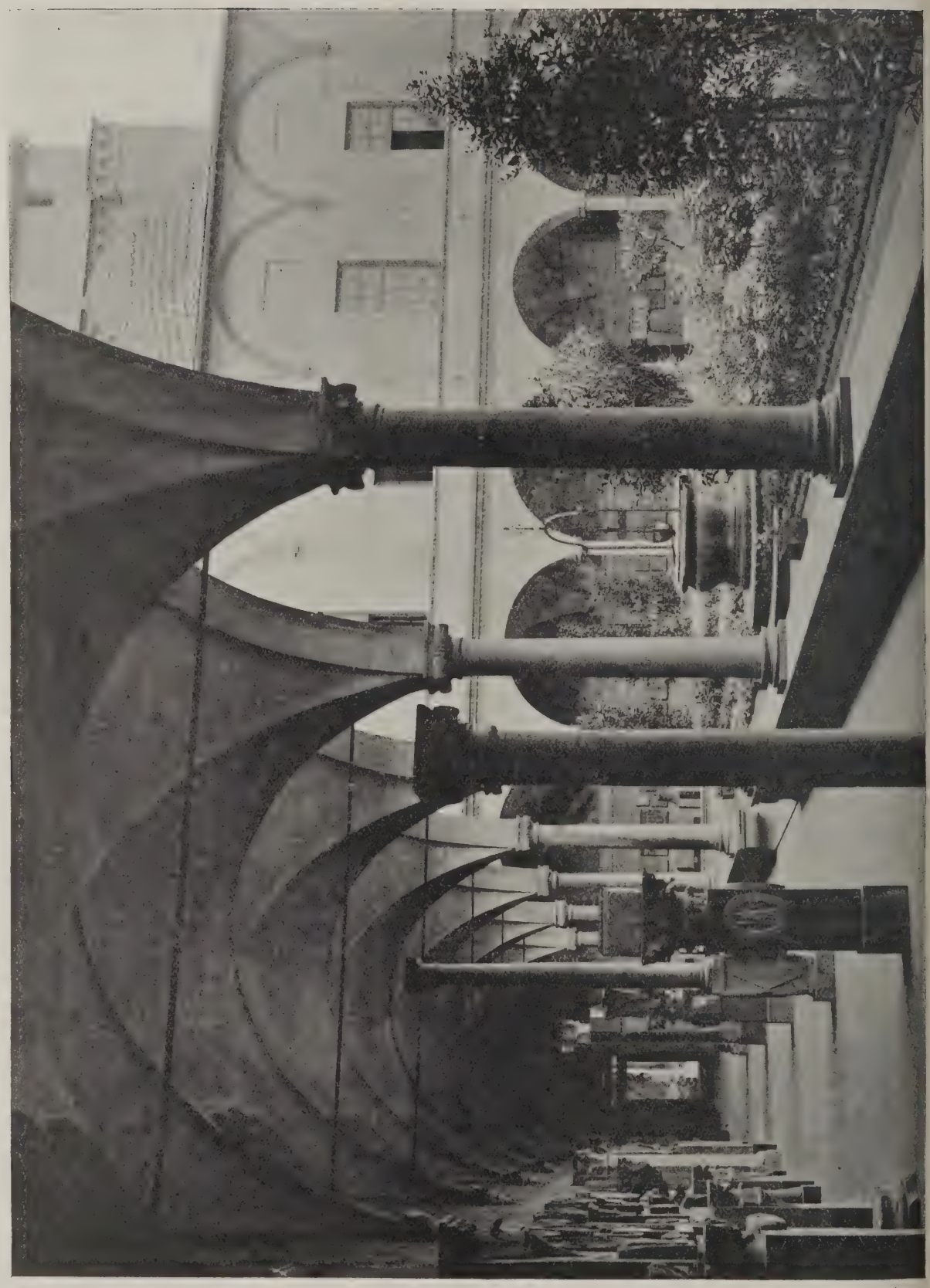


Photo: R. Hurl

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

ıesday, April 7, 1920 Volume LI. No. 1318

The Status of the Country Architect

VE learn with interest and pleasure that definite steps have been taken towards the formation of an Architectural Society for the counties of Hertford and Bedford, on nes of the existing local societies and in affiliation e Royal Institute of British Architects; particulars e found in another column.

e importance and usefulness of such Allied Societies longer questioned, and we view with satisfaction present policy of the Royal Institute in the ıragement of the local societies and the seeking of co-operation with them; it is a matter for regret circumstances have prevented or at least delayed 'resident's taking that personal hand in the matter ı he contemplated.

e Hertford and Bedford Society will in its develop- to some extent break new ground, and its forma- s therefore of more than merely local significance. existing allied societies are without exception ed on important towns; but neither Hertford nor ordshire contains any town of the first magnitude, he absence of a natural centre and the deficiencies ternal communication will give to the new society iar difficulties, and for that very reason, as we think, iar value.

the great provincial towns unsatisfactory enough the position of architecture and architects, practi- rs can without serious trouble meet together for vship and mutual support; their numbers are suffi- to give their collective action a certain weight, and is in being some amount of cultured opinion and a pride, which, if not always discerning, is at least and vigorous; to these conditions appeal may be not altogether without success.

e situation of architects in the smaller towns and ry districts is very different, and to those men, in number than is often supposed, who have ctable qualifications and are jealous for the honour eir art and the best traditions of their profession, onditions of daily practice are to say the least some- disheartening.

ere are, of course, in most districts a few men who, ason of local interests, financial or social, excep- force of character or, it may be, outstanding , are able to place themselves in a strong position o make their influence felt, sometimes beyond their diate borders. The less favoured practitioner, ver, too often finds himself fighting single-handed ıequal battle against the apathy of his neighbours he complacent indifference and ignorance of those authority, and has to face the competition, often too scrupulous, of persons outside and (it must be d with shame) sometimes within the profession, e only qualification is an enterprising impuden e. practice is necessarily largely confined to the less ing or simply routine aspects of building, and he ot infrequently the added mortification of seeing the more important commissions, to the execution of which his local knowledge would have been invaluable, given over his head to strangers whose superiority rests perhaps only on the magic of the West-end address.

Further, he is cut off from access to libraries and other means of education in the widest sense; this, for the younger man especially, is a crippling drawback, and incidentally makes the problem of obtaining competent assistance well-nigh insoluble.

Attempts have been made here and there to secure under such conditions some measure of co-operation for professional betterment by means of small local societies; such exist, for instance, in Hertfordshire at Letchworth, and in Bedfordshire at Luton, and we believe elsewhere; but though these have proved useful within limits, their experience has been to show how narrow these limits are.

Is this picture too black? We doubt it, and fancy that architects working in such districts as we have been considering will admit its general truth to the facts.

We are not so sanguine as to believe that such difficulties and disabilities can be removed altogether by the formation of architectural societies on county or wider bases, working in alliance with the Royal Institute; yet we are confident that much can be done by joining hands and forces to secure a general raising of the status of the country architect, an advance in the standard of qualification and professional practice, and to prevent unfair competition and under-cutting in the matter of remuneration; to promote a better understanding between the profession and the builders and craftsmen; and to mediate in cases of friction and misunderstanding; to bring with authority the architectural aspect of public questions before public bodies, and to co-operate with such bodies in the promotion of artistic and technical training. Opportunities for propaganda work can be taken as they present themselves and efforts be made for the protection of historic buildings and the prevention of the vulgarization of beauty-spots—a work that is unfortunately no less urgently needed in the country than in the town.

Exhibitions of first-class work can be organized at suitable centres, and occasions for meeting his fellows and getting to know them and their work will help to break down the morbid isolation of the individual architect and cheer him with the sense of companionship on his uphill and solitary way.

And these considerations by no means cover the whole ground.

We shall watch then the progress of the new society with a benevolent interest, and trust that its example may be widely followed, and that the day may be hastened when all the gaps will be closed and the whole country be covered with a network of lively societies, in active and constant communion with each other and with the central body.

ALLEN FOXLEY.

Notes and Comments

New Light on Registration

WE publish this week the first of a series of important pronouncements on the great architectural question of the hour—Registration. London opinion on the subject is already indicated, if not declared. The unanimity of the special meeting called by the Institute to decide on the Council's recommendation to form a mixed committee to deliberate on the means of securing unity in the profession, left but little doubt as to which way the wind blew. But the attitude of a London meeting does not necessarily represent that held in the provinces. It seemed to us, therefore, that at the present juncture no more useful service could be rendered to the profession than that of putting on record the general opinion held in the Provinces on this vital question, so far as that opinion was ascertainable by the means within our power. Accordingly we sent a member of our editorial staff to Birmingham, Manchester, and Liverpool, and the districts to which these cities are central, there to discuss personally with representative architects the important questions at issue. Of the results of his investigations a first instalment is published this week. It will be understood that our object in gathering these views was not to confirm our own predilections, but to ascertain at first hand and to make public the trend of opinion in the great provincial centres. We have much pleasure in acknowledging that in pursuing this object we have met everywhere with every courtesy, and with enthusiastic encouragement. Correspondence on this supremely important topic is cordially invited. Such further communications will help us to realise more completely our aim of providing the mixed committee with clear guidance as to the general trend of opinion on Registration and on the important issues it implies.

The Building Exhibition

After a seven-years' trance, the Building Trades Exhibition is again awaking at Olympia. It is to be opened on Saturday, April 10, by Dr. Addison, the Minister of Health. Despite the long war, during which nearly all building has been locked up as by frost, the Exhibition will be as big as the last, which was held in 1913. More than three hundred firms are exhibiting, and, with the exception of a stand taken by the Dutch Ministry of Labour to demonstrate the manner in which Holland is dealing with housing problems, and, further, the presence of the Australian Concrete Brick Machine Company, the exhibitors are all British. The catalogue has become more bulky than ever. Every succeeding exhibition adds a score or so of pages, and in a year or two the idea will have to be entertained of publishing it in two parts. Already it is almost as unwieldy as the London Telephone Directory—and heavier to handle than the sixty-page brochure which was the guide-book to the Exhibition a quarter of a century ago. At that time, of course, it was held in the Agricultural Hall at Islington, and the bona fide building exhibits had to be eked out with others not strictly cognate. Indeed, it is related that when Messrs. Montgomery first took the affair over, there were "side shows" such as shooting galleries, cocoa-nut shies, and the like, whilst a row of hansom cabs, at that date in the heyday of their fashion, were on view. Happily, the new organisers made a clean sweep of all these distractions, and declared definitely that there should be a building trades exhibition or none at all. It took a lot of working up, and for the first few years it was run at a loss. Then the big firms recognised the opportunity that was being offered to them, and nowadays every stand is bespoken a long way in adv In the present exhibition every stand has been bo up practically since last June. The social and per value of the Exhibition will not be overlooked. Ur as it does the leading professional and technical inte of the great and complex industry it represents, it ca fail to promote the fraternal spirit that makes fo unity and co-operation which we all desire. This we give in an enlarged issue a preliminary notice o chief exhibits, together with a plan of the Exhib and a valuable key to the trade names of article hibited, which by this means can be immediately tr to the stands at which they are shown. Next w in a still larger issue, we shall give extended descript accompanied by as many illustrations as the avai space can accommodate.

Skyscrapers and City Churches

If we were at all given to pessimism, we should come away from last week's meeting of the R.I. feeling greatly depressed; for according either to Martin Conway or to Mr. Arnold Taylor, many London's churches are doomed. Sir Martin says unless we build upwards it will be only reasonabl them to be demolished, for their congregations already scattered and we cannot afford their space. Mr. Taylor says that if we build higher, then W beautiful spires will be overshadowed and lost, and told us, "There is no more beautiful sight in the w than to sail up London's river and behold those s spires, dominated by the dome of St. Paul's." T dismal forebodings were provoked by the paper in w Mr. Delissa Joseph sought to show the necessity relaxing the by-laws as to the height of buildings. we have said before, we have not the smallest belief sky-scrapers are necessary for London, which has a room for lateral expansion. We are aware, howe that this argument is lost on those who are enamo of over-centralisation, and who always prefer bigne beauty. For a pronounced instance of this hor fascination, commend us to the suggestion that our p should be surrounded by skyscrapers. The idea is fectly appalling; but it would justify the wretched n sometimes given to our public parks as "encl spaces." They would be only that, and nothing mor

Architectural Opportunities

A very large site in the Holloway Road, London, near the Great Northern Railway Station, has just sold. It is a rectangular plot, covering an area of acres and a half, and offering three road frontages. architect who gets the commission to put up mo premises on the site has an enviable chance of put up an exemplary building in a district that is sorel need of this attention. An even better opportunity making an impression architecturally occurs with res to the sale by auction of a freehold in Oxford St which covers a total area of 1,950 square feet, and two frontages. These two instances are only a dro the ocean. Never before has the young architect such unbounded opportunities of proving his me Reconstruction in the literal sense will demand develop all the rising talent, as well as extend that o tried veterans.

Real Reconstruction

A writer in the "Houses and Estates" columns of "Daily Telegraph" reports that the buying of ou date premises for reconstruction is going on very ex sively in the West-end. This process should be pr

proved design, as well as giving full opportunity ıe introduction of new methods and materials of ruction. Never before have they had such a favour- opening. Prejudice against them is now at zero. ɣs are no longer rejected because they are new; ar having made all things new. Besides, the old ials being still scarce and dear, it is necessary to ement them. Moreover, the Minister of Health ed the way by sanctioning the extensive use of tute materials in housing schemes, and his example h matters, backed as he is by expert advisers, is ɣly influential. The promoters of the Building s Exhibition are fortunate in getting him to it.

eepdene," the Home of the Hopes

stated that "Deepdene," near Dorking, is for sale. a house of many memories. Disraeli's novel ingsby" was conceived and partly written there. as dedicated to Henry Hope, Dizzy's loyal friend arm admirer. To the architect and the connoisseur, er, "Deepdene" is chiefly interesting as the home omas Hope, the rich amateur of furniture and art res, of which he was a designer as well as a tor. To Thomas Hope's true taste we owe a ı in the decoration of interiors that has had ing effect. If he liked overmuch the robustious ures of Canova and Thorwaldsen, that idiosyncrasy be forgiven him for the sake of his refined taste niture design. It will be remembered that several as Hope designs have been illustrated in this ıl.

Mrs. Ward's Georgian House

is remarkable how well Georgian houses with- the ravages of time. Often they disappear ecause they are decayed, nor because of the ring flames that are a more rapid form of mption, but because of the ignorance or rapacity owners. Mr. Leonard Huxley, in writing his iscences of the late Mrs. Humphry Ward, mentions ıe once lived at an "old Georgian house in Russell e, long since pulled down, but then still keeping terior decorations designed by Angelica Kauff- " He adds that "the big double drawing-room ıe meeting-place of many literary friends, and talk d far and wide. In the little third room behind -was it once the powdering closet of some enth-century belle?—Robert Elsmere was ." The house should have been spared if only e sake of Angelica's paintings. Its claim would been irresistible if Mrs. Ward's masterpiece had finished as well as begun in it; and the London y Council would now be asking for leave to put a rial tablet on it. By the way, is Mr. Huxley quite ı assigning the powdering-room wholly to the Surely, when wigs were in fashion, the men es of the day made equal use of it—or of one that ad to themselves.

New Memorial to John Gower

nemorial window to John Gower has just been l over the poet's tomb in Southwark Cathedral. leasant to feel that the love of literature is so as to procure for an old poor poet a fresh rial of him some five centuries and a half after ı. True, it is commonly held that he was not much oet, and that his "Confessio Amantis" does not etely justify the title bestowed on him by his Chaucer—shows, at all events, that "the Moral " had his weak moments. But any literary sur- of a period so early as the fourteenth century l be cherished if only as a curiosity; and it is ore gratifying to find that, even in these ultra- ercial days, the regard for early literature is by no means extinct. It has been averred that near the spot whereon stands Gower's tomb, Shakespeare was wont to worship. It is an interesting conjecture, and it may be true; for Shakespeare's younger brother Edmund lies buried in the church.

Versatile Reinforced Concrete

An architect sends us this cutting from a poultry journal:—"I would be very much obliged to you if you could answer the following:—(1) Where can ferro-concrete be bought? (2) Can it be used for the framework of a laying house (like Mr. Hanson's)? (3) Can it be used for droppings-boards and perches? (4) What size would one need for the framework? (5) I suppose the floor would have to be of wood? (6) Can it be sawn like wood? (7) Would felt have to be used on roof and back, as in Mr. Hanson's houses? (8) Can nails be driven in it?" Is not this a very striking illustration of the dense ignorance of the general public with regard to almost everything that pertains to building? It favours the contention that facts about building processes and materials would be very usefully introduced into the teaching in our elementary and other schools.

Trees on Clapham Common

It is odd that Mr. Bankes, K.C., the magistrate at the South-Western Police-court, London, should have been appealed to for an opinion on the decision of the London County Council to cut down certain trees on Clapham Common. Feeling must have been running rather high to occasion such a request, and must have communicated itself pretty strongly to the worthy magistrate, or he would not have complied with the request. He said he had carefully inspected the trees, and hoped the Council would reconsider their determination, for the trees were a great ornament to the common, and gave pleasure to old and young. He would ask the Council to say, "Woodman, spare the trees." Is not this a bizarre incident, and one that is possible only in England? A fortuitous assembly of stodgy burgesses determine whether or not trees on a common shall be cut down, and an aggrieved person appeals to a police-court magistrate to ask them not to have it done! Could anything be more ludicrous? Alas for poor Clapham Common! Since the London County Council took it over, a blight has come over it. Once it was a beautiful patch of green earth, all ablaze with golden gorse, and showing groups of trees so beautiful as to tempt Turner to paint them. Now the sward is fenced in with ugly iron railings, and is intersected with cinder paths. Either of these brutal features would be sufficient to destroy its amenities. In combination they kill it. And now some more of the trees are to go, unless Mr. Bankes sends a stalwart policeman round to overawe the vandals who sit in their Star Chamber at Spring Gardens dealing out death-sentences to amenity.

Sir Lawrence Weaver, K.C.E.

We are specially glad to see in the long list, published last Wednesday, of knighthoods conferred by His Majesty in recognition of services rendered during the war, the name of Mr. Lawrence Weaver, Commercial Secretary to the Board of Agriculture, who becomes a Knight Commander of the British Empire. Sir Lawrence, who was for some few years a frequent contributor to this journal and to the "Architectural Review," was made an Hon. A.R.I.B.A. in recognition of his literary services to architecture. He had read scholarly papers to meetings of the Institute, to whose library, through his mediumship, some priceless Wren documents were presented. Sir Lawrence is the author of a standard book on ornamental lead-work, and the editor of several minor volumes on architectural and cognate subjects.

The Week's News

Luxury Building

All building operations in connection with new places of amusement are to be prohibited by the L.C.C.

A New Severn Bridge

A railway and road bridge is to be built across the Severn, near Chepstow. The estimated cost is £8,000,000.

Cement Shortage in Tasmania

Construction work is being hampered owing to a shortage of cement. It is stated that none can be bought from England.

Merionethshire Slate Quarries Reopened

At Corris, the important Aber-Corris quarry is about to be reopened, while a similar development is pending at the Abercwmerddu quarry. Equally important enterprises are taking place at Aberangell, where the Hendreddu and Nanthir slate and slab quarries, which have been closed since 1910, are to be reopened.

Rebuilding Belgium

The great problem of the reconstruction of the devastated area is now being undertaken by the Belgian Government. Some idea of the gigantic task confronting the Belgian authorities may be obtained from the statement that there are some 1,104 churches, and between 100,000 and 120,000 houses to be rebuilt.

University School of Commerce

The King has consented to lay the foundation stone of the building for teaching commerce for the commercial degrees of the University of London on Friday, May 28. The new building is being erected on a site granted by the L.C.C., adjoining the School of Economics in Clare Market.

University College War Memorial

The University College and University College Hospital, London, propose to erect a memorial to college and hospital men who fell in the war. All members of the college who have not already received notification are invited to send their names and addresses and dates of student years to the Hon. Secretary, University College, London, who will send them full particulars of the scheme.

Guildford Garden Suburb

The new garden suburb about to take shape on the northern slope of the Hog's Back, near Guildford, is said to be the first enterprise launched under the Housing and Town Planning Act of 1919, and the first to link up the four interests involved—the local authority, the landowner, the tenants, and the investing public. The property is at present outside the municipal area of Guildford, but the borough boundaries are to be extended to include it.

R.I.B.A. Royal Gold Medallist

At a special general meeting of the R.I.B.A., held on Monday night last week, the following resolution was passed:

"That, subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of architecture be presented this year to Mr. Charles Louis Girault, Membre de l'Institut de France (Hon. Corr. M.), in recognition of the merit of his executed work." President (Mr. J. W. Simpson) occupied the chair.

Loans of Stained Glass

The Victoria and Albert Museum has lately rece two important loans of stained glass. The first, ler Mr. William Burrell, comprises five panels of Fr 16th-century work, once at Costessey Hall, Nor All five are thoroughly characteristic examples of French Gothic glass, showing great skill in the bal and harmonising of the colours. They are exhibite the second floor of the Museum, in Room No. 138. second loan, from George Eumorfopoulous, consist two specimens of English work of the 15th cen and is to be found with the St. George panel in R No. 136.

A Famous Welsh Hotel

"The Royal Oak," Bettws-y-Coed, which is to be by auction, was a favourite abiding place of David and much of his finest work illustrates its neighbourh It is here he painted the famous signboard of the inn, which still forms the glory of the present h where it rests after figuring in more expensive litig than ever befell a signboard before. Turner, B Foster, Leader, Frank Holl, Poynter, and many artists have subscribed their names to the visitors' b which also records the signatures of Gladstone, Bright, General Gordon, Charles Kingsley, Presi Roosevelt, and a host of others.

Housing Experiments

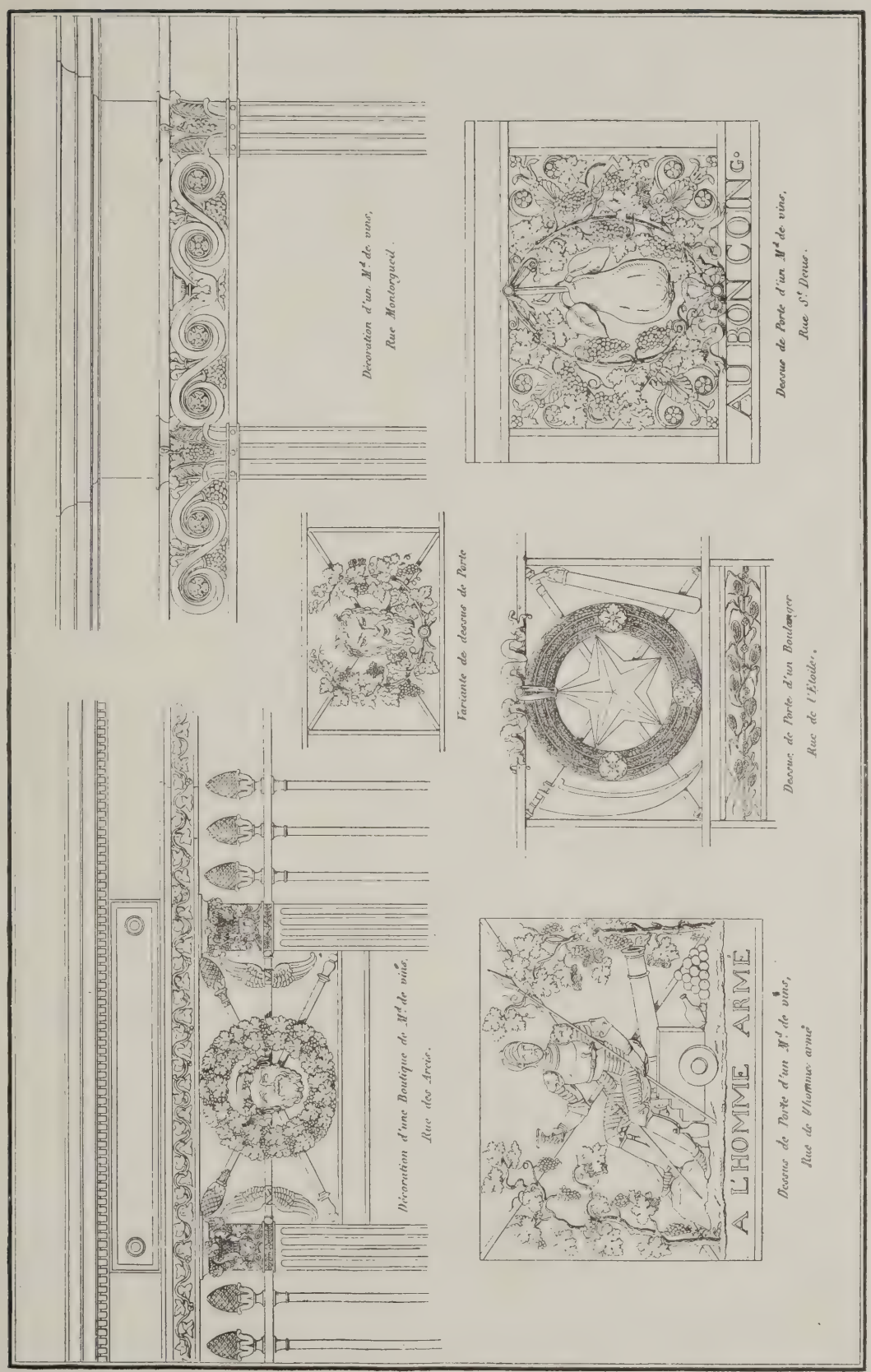
An experiment in house erection is being carried at Bournville to determine the comparative cost erecting in a district what, as regards natural sup of material, may be classed as "average" houses o same design, but of different substance. The Hou Director in London and the Housing Commission Birmingham are watching the experiment with inte Houses are to be built of wood, brick and conc concrete, and pise-de-terre. The two first-menti types have already been completed in ten days and weeks respectively. Though brick is the no building material of the locality, concrete blocks being made with factory furnace ashes in the plac sand and gravel.

Height of Ceilings

Sir George M'Crae, Vice-President of the Sco Board of Health, stated at a town-planning confer at Edinburgh that a good deal of feeling existed an some local authorities who wanted to raise the heig the ceilings in housing schemes. It was urged tha the cottage houses in Scotland, the height of the cei should be 9 ft., instead of 8 ft. 6 in. In England maximum height was 8 ft., and the Ministry of He had decided that only in exceptional circumsta would the maximum of 8 ft. 6 in. be allowed. From medical standpoint they had been assured that the ceiling was not only sufficient, but ample from the h point of view. The additional cost of heightening ceilings in Scotland would be £2,400,000. The mee agreed to a resolution which stated that, having care considered the conditions imposed by the Boar Health restricting the heights of ceilings to tenem enacted under housing schemes to a maximun 8 ft. 6 in., they were of opinion that a height of should be conceded by the Board to all local autho who desired to adopt this standard. The meeting u that representations should be made to the Board to the prepared requirements modified accordingly.

(Continued on page 459. Architectural Causerie on page 4

French Metalwork. II.—Shop Front Decorations



Meaningless ornament is an abomination to the French. They prefer that it shall always be appropriate to its situation. With the exception of the decoration for a baker's shop, these designs from Bury's book all relate to the wine-merchant's place of business, but they would serve equally well for the decoration of hotels, restaurants, or private dining-rooms.

Registration: The Topic of the Hour

LL the arguments for and against Registration are so well known that to recapitulate them at full length would be wearisome in the extreme. If they were placed in parallel nns, the Ayes column would be tightly packed, the column nearly blank. There is so little of rtance that can be said against Registration, and uch that can be urged in its favour, that the case y seems arguable. In South Africa, and in certain e United States of America, some form of Statutory stration was adopted years ago, in some instances st without opposition, and without protest against roposed imposition of severe penalties for infringe- of the law.

Britain we are more lenient. There is not the test likelihood that, after the Architects' Registra- Act has become law, any unregistered person doing tectural work will be prosecuted "with the utmost r of the law," still less persecuted. As long as nregistered person comports himself decently, the vill have no terrors for him. The utmost that can en to him is a threefold disqualification: (1) He l not be allowed to call himself an architect. (2) In any defect in his work took him into the courts, the of his being unregistered would set up a presump- hat he was therefore an unqualified practitioner or , and this would influence the Court's view of the He would be liable to be mulcted in heavy ges for incompetence, and, in extreme cases, he t be put on his trial for criminal negligence. Cer- these dangers beset the architect even now, ner or not he be a member of an architectural isation; but evidence of his membership of an ectural society to which he has been admitted by ination sets up almost invariably a presumption that e may be attributed to some other cause than petence. There are, however, instances in which rgument works both ways: the prosecuting building r having been blandly told by the Court that he ved his misfortune for his foolishness in employing chitect having no credentials beyond a door-plate. hen the passing of a Registration Act has at last ht it home to the public mind that, besides ects, there are irresponsible pretenders who, the new law, dare not call themselves architects, g no just claim to the title, the unregistered man ot be able to usurp the functions of qualified practi- s, as to-day it is notorious he does to a scandalous t. He will not be completely obliterated, any more the unqualified dentist or the quack medicine r has been; but he will find it much more difficult ss himself off as the genuine article, and he will se at his own peril.

t that the Registration Act will take the bread out mouths of competent unattached men. They will e driven out of the Profession because they do not n to belong to any of the professional organisa- They will be admitted to Registration on ing reasonable proof of their competency. They therefore, not the slightest ground for opposing tration. Quite the contrary. Those of them who a rooted objection to organisation—and many are stituted as to be dominated by that idiosyncrasy— l welcome an Act that will set the hall-mark upon without requiring membership of the Institute.

t here it becomes necessary to answer an objection as been raised by a few organised architects. There ne danger, they say, that Registration may be led as an effective substitute for organisation. We t for a single moment believe that Registration will nt in the slightest degree the value or the arity of organisation. Indeed, we predict very ently that it will have the exactly contrary effect. Men are naturally gregarious and clubbable, and the common bond of Registration will draw them closer together. They will join the Institute, or the Federation (or by whatever name the new and enlarged corporation may chance to be called) because it got them Registration, and in that great achievement demonstrated most powerfully the advantages of union. Registration will give them status: membership of the State-recognised incorporation of architects will give them still higher standing. It is perfectly safe, therefore, to predict an enormous augmentation of the organised forces immediately on the passing of the Registration Act.

Two forms of Registration have been advocated—Voluntary and Statutory. At one time the Institute was in favour of the Voluntary type, the Society of Architects advocating the Statutory system. We may take it for granted that all are now agreed on Statutory Registration as the only effectual form.

Opposition to Registration must be faced. That it will not come from the architectural profession was clearly evident from the vote of March 22, and it is as plainly apparent from the evidence we have collected in the provincial centres where architects most do congregate. Opposition may be expected to come from persons of hybrid practice and predatory instincts, who naturally will fight hard against being suddenly deprived of opportunities, hitherto freely enjoyed, of poaching on architectural preserves. Other vested interests are involved, and, to combat them successfully, the Architectural Profession must hasten to close up its ranks. Success with a Bill to be brought before Parliament depends on two points of proof—that the Profession is united in its demand, and that Registration would benefit not only the Profession, but the public. For ourselves, we have long held that Statutory Registration would operate powerfully for the betterment of the Architectural Profession, and we are equally convinced that it would be immensely to the advantage of the public itself, by offering a full guarantee of safety and health.

Convinced though we were of the desirability of Statutory Registration, we felt that we could do no better service to the Profession at the present juncture than by ascertaining and placing on record the opinions on the subject that prevail among provincial architects, who have fewer opportunities than their London confrères of expressing opinion. Accordingly, we sent a special commissioner to Birmingham, Liverpool, and Manchester, to investigate the subject as fully as possible, and, by placing on record the deliberately expressed opinion of representative architects practising in those cities, to show clearly and unmistakably what provincial thought on Registration and cognate topics really is. In gathering opinion on the subject, we have observed the strictest impartiality; and in inviting further opinions from our readers, we wish to assure them that our wish is not simply to have our own views confirmed, but to have the question thoroughly threshed out. Communications either for or against our own views of the questions at issue will be accorded equal hospitality in our columns.

Appended are a few of the opinions gathered by our representative:—

Federation Rather than Fusion

Mr. T. Taliesen Rees, President of the Liverpool Architectural Society, a Fellow of the R.I.B.A., and also a Member of the Society of Architects, said he was not sure that it would be a good thing to amalgamate the two Institutions. Their continued existence as separate entities would at least preserve the profession from stagnation, which would become a very real danger if the incentive to activity was removed. There was such a

thing as healthy competition. To his mind, the proposed fusion would be very much like the House of Lords swallowing the House of Commons.

Registration was certainly now an aim common to both societies, but he did not agree that fusion was essential in order to secure Parliamentary sanction to such a measure of reform. It should be possible to obtain a Charter that would embrace both societies and yet allow the two to exist side by side—linked together in essentials, but retaining individual freedom in matters about which there might be legitimate cause for difference of opinion. The great danger of amalgamation, he thought, was tyranny. He had no wish to see the great profession of architecture organised on the lines of a trade union.

Referendum Recommended

Mr. Isaac Taylor, F.R.I.B.A., President of the Manchester Society of Architects, expressed himself as being personally in favour of amalgamation, but there was no definite policy on the subject either one way or the other, so far as his society was concerned; it was purely a matter of personal opinion and could only be settled by a referendum. Members of the Institute would no doubt regard the admission of the Society of Architects to its ranks as something of a concession, and any attempt at fusion was likely to be strongly opposed by a certain section. That some members of the Institutes would feel aggrieved was inevitable; but this was essentially a case for yielding personal rights and privileges in order to benefit the whole profession.

Duplication Wasteful

A prominent Manchester architect, who is a member of both the Institute and the Society, strongly favoured amalgamation. Both bodies, he observed, have the same aims, although in some things seemingly opposed. Registration, education, the settlement of forms of contract were all matters upon which both societies were equally keen, and to continue longer as separate entities would be to duplicate every kind of effort unnecessarily. He noted the unhappy tendency of some members of the Institute to look down upon the Society; such an attitude was priggish and quite unjustified. The average member of the Society would compare satisfactorily with the average member of the Institute in every respect. To-day, the Society of Architects imposed tests quite as severe as those of the Institute, and no one could become an M.S.A. without being a thoroughly capable man. There was very little, he thought, besides individual obstinacy standing in the way of a united profession.

For Closer Communion

Mr. E. P. Hinde, F.R.I.B.A. (Liverpool), was not in favour of fusion, because, for one thing, it would be futile to go before Parliament with the profession in its present chaotic condition; and, for another, there would be the ever-present danger of schisms. With so many ill-educated men in its ranks the profession could have little hope of securing Statutory Registration. He suggested that the right course of procedure would be first of all to qualify themselves properly and to put their house thoroughly in order. Then there might be some possibility of getting Registration—but only, he thought, on the constructional and not on the decorative side. He suggested that there should be a much closer intimacy between the R.I.B.A. and the Provincial Societies, and vice versa. The Institute should become the central and recognised architectural professional organisation. He would recommend that no provincial society should admit to its membership any man who had not passed the Institute tests. He suggested, further, that architectural education should be entrusted entirely to the Universities, whose degree should qualify for membership of the R.I.B.A. Only by some such method as this would it be possible, he thought, to increase technical efficiency and to get a strong and united profession. Registration could not be achieved in a day. It wo come, if it came at all, as the result of long-sustai and laborious effort directed towards the improvemen education and the increased status of the profession.

An Educationist's View

Professor C. H. Reilly, M.A., F.R.I.B.A., Princ of the Liverpool University School of Architecture, s he thought that the right policy for architects at present time was for them to offer an unbroken fron the world, which meant amalgamation of exist societies. This was a necessary prelude to Registrati The old state of affairs in which each architect society viewed the rest with jealousy belonged to the p war period. That was a time of individualism, and architectural doctrine, almost of anarchy. Each arc tect moved in his own orbit, dragging his pupils disciples with him, and in a different sphere the arc tectural societies attempted the same thing on a lar scale. The future seemed to him to belong to a m more unified conception both of the individual and col tive functions of architects and architecture. T responsibility of the profession to the community must more clearly recognised on both sides. This implie much more thorough and comprehensive system education. The students of the future must have th outlook enlarged. They must know the trend of arc tectural thought in all Western countries, instead having their horizon limited to the walls of the partic office they are in. To achieve such an end Schools Architecture would have to grow up in all the Unive ties comparable to the present Medical Schools. T development of such schools should be the first care duty of an enlarged Institute embracing the wh profession.

Amalgamation an Obvious Necessity

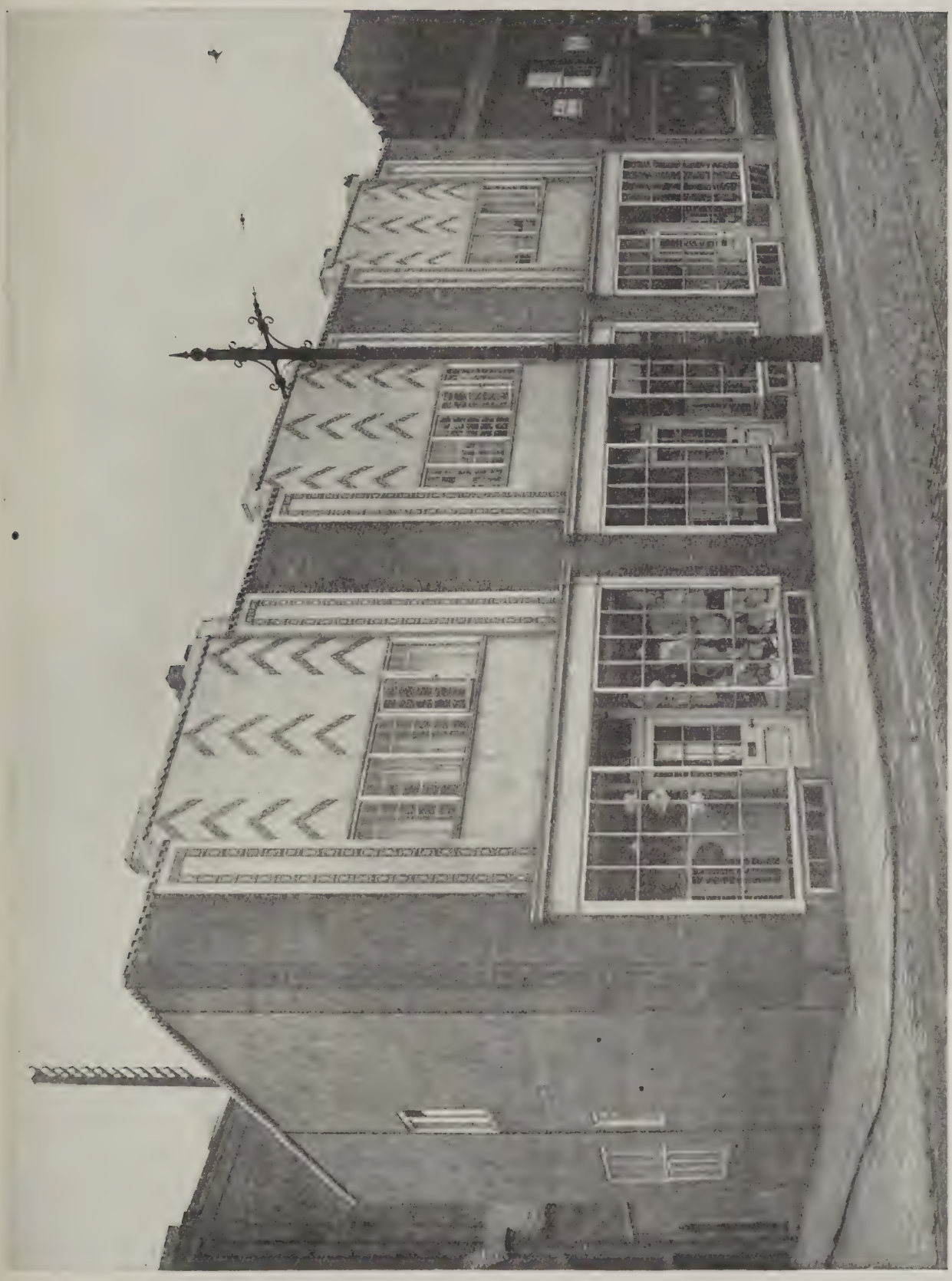
Mr. Arthur Harrison, F.R.I.B.A. (Birmingham), h that amalgamation was an obvious necessity. It most regrettable that there should be two big socie representing one profession. The interests of both w identical, and unity ought no longer to be delayed. Harrison recalled the discussion that raged some ye ago around the question: "Architecture—a Professior an Art?" It was all a question of view-point. Those the higher flights of practice could afford to be in pendent, and naturally disliked the idea of be registered; but to others—the small architect in provinces, for example, who had to struggle hard secure a bare livelihood—the question appeared in a v different light. The time had come, Mr. Harri thought, to join forces in order to "defeat the comm enemy." Much that was good should come of Regis tion. For one thing, housing muddles would be avoid In many instances housing schemes had been unc taken by local authorities without the employment of architect, the work being entrusted to the local survey This often ended in the creation of a special hous department, with a great increase of expenditure round. It would be much more economical to emp an architect from the start. This was only one insta in which Registration would effect economy of pul funds. Architects, although they discharged duties responsible as those of doctors, lawyers, and accountar had nothing of their powers or status.

Combined Movement Essential

A prominent Birmingham architect said he thou that opinion in Birmingham was overwhelmingly favour of Registration. Architects were not alone desiring State protection and recognition; the c engineers and the surveyors were all pressing fo Charter. He thought it likely that there would b combined movement to get a measure through Par ment. What could not be done individually might v well be done in combination.

[To be continued.]

Edgar Wood, Architect



In these shop-fronts, simplicity is carried to an extreme, and it cannot be said that they are one whit the worse for it. Shapely and of good proportion, they revert to the small panes that were common before the art of rolling glass to large dimensions was invented. The treatment of the wall above them would have delighted Robert Adam.

Architectural Causerie:

The First R.A. Professor of Architecture

NOW that the question of appointing a permanent Professor of Architecture to direct the studies of embryonic architects at the Royal Academy has been suggested by Sir Aston Webb, interest centres in the career of Thomas Sandby, whom fell the task of initiating the studies of the 18th century aspirants when Sir Joshua Reynolds held office at Somerset House.

* * *

Thomas Sandby was born at Nottingham in 1721, his brother Paul four years later. Thomas lived until 1798, and Paul had attained the age of eighty-four when he died in November, 1809. Both artists were self-taught, a matter of common occurrence in the eighteenth century. They were admitted to the Drawing Room at the Tower of London, and eventually Thomas was appointed Draughtsman and Private Secretary to the Duke of Cumberland. During the early part of his life Thomas had varied experiences of military service. For example, he was at the battle of Dettingen in 1743, when his royal patron was wounded. Sandby again accompanied the Duke in 1745 to Flanders, and was at the battle of Fontenoy, returning to England in October of that year, only to receive orders to join the Duke in the latter's expedition to check the rising of 1745, and in 1746 to be present at Culloden, where he sketched the battle front. I believe this drawing is now preserved in the Royal Library at Windsor, while other drawings of the talented artist are in the British Museum.

* * *

The first drawings made by the future Professor of Architecture at the Royal Academy of which any trace exists are those dated 1741, showing views of Nottingham, the Castle and Town Hall, all of which are engraved in Deering's history of the town. There is no direct evidence of the sources whence he derived his early education; but later in his life, when lecturing on Architecture at the Royal Academy, he spoke of himself as "self-taught in drawing." James Gandon had a high regard for the ability of Thomas Sandby, to whom he refers in his memoirs: "Paul Sandby was born at Nottingham, where he and his brother kept an Academy," but this is a doubtful statement. There can be no doubt, however, of the fact that Thomas Sandby played the part of military draughtsman, and did all that was expected of him; indeed his career forms an interesting link in the history of draughtsmen on military service from those employed by Louis XIV. and Napoleon to Sir Douglas Haig. Perhaps in this connection it will not be out of the way to include the name of Muirhead Bone.

* * *

When the Duke of Cumberland was appointed in 1746 to the Rangership of Windsor Great Park he did not fail to select his artist friend Thomas Sandby to be Deputy Ranger, and thereby secure a competence to enable the architect to continue his work without worry. For the Duke, Sandby altered and enlarged the Great Lodge, and designed the Deputy Ranger's house for himself—a pleasant brick house, containing two bay windows with a wooden portico between them. George IV. swept this away in 1813, when Prince Regent, and the site is now occupied by the conservatory, but two rooms, said to have been part of Sandby's work, remain.

* * *

Sandby was just the artist to be entrusted with the Formation of Virginia Water, and to carry out alterations in the drives and alleys of Windsor Great Park; but he took the opportunity to write to his brother Paul to come and help with the operations. The works included the new water, the lodges, the cascades, the Great Meadow Park, and the Obelisk Park, as well as the beeches planted in double line from Bishopsgate to Cumberland Lodge. Small wonder, then, that King George III. favoured Thomas Sandby with his friendship, and visited him at the Deputy Ranger's Lodge without notice. Sandby's work on the artificial lake owes its success to an accident. At first the lake did not extend beyond the point now taken up by the artificial ruins. One night—to be precise, the 1st of September, 1768—a storm upset the waterworks at Windsor. The lake overflowed and washed down the dam, thereby causing the lake to be eventually extended to its present size. Nature, after all, proved infallible in forming a real landscape.

* * *

Alderman Boydell, the publisher of many engravings showing the districts round London in the late 18th century, published a series of views by Thomas and Paul Sandby, illustrating the works of the brothers at Virginia Water in 1772, and it is from these views that the architecture designed by Thomas can best be studied; but we must not overlook the evidence offered by the portfolio of sketches in the Soane Museum. Although both brothers thoroughly enjoyed the amenities of Windsor and the smile of the royal patron, they felt it essential to increase their reputation in London, and decided to spend a part of each year in the metropolis. Thomas Sandby accordingly rented a house on the south side of Great Marlborough Street, Oxford Street, one of the best of the old houses in the street. I strongly suspect this house to have been the one identified with the early years of the Architectural Association. Paul resided for a time in Dufour's Court, Carnaby Market. No doubt the brothers frequented the house occupied by Sir William Chambers in Poland Street, and hobnobbed with James Gandon. There is a charming water colour in the British Museum showing the studio built by Thomas Sandby and occupied by Paul in St. George's Row, Oxford Road, overlooking Hyde Park—now, alas! swept away into the limbo of things forgotten.

* * *

In a former causerie I had occasion to refer to the St. Martin's Lane Academy. It is of interest to note that Thomas Sandby formed one of the members of the committee; and it is of still greater interest to read that this society in 1755 printed and issued a pamphlet advocating "The Plan of an Academy for the Better Cultivation, Improvement and Encouragement of Painting, Sculpture, Architecture, and the Arts of Design in General." Arising out of this early attempt arose the Royal Academy of Arts in London, founded on Saturday, 10th December, 1768.

* * *

Thomas Sandby was elected the first Professor of Architecture. He was instructed to deliver six lectures annually for the sum of thirty pounds a year; equivalent, let it be noted for the benefit of latter-day professors, to the sum of £180 at present values. The six lectures were, as set forth in the Instrument, to be "calculated to form the task of the students, and instruct them in the laws and principles of opposition, to point out to them the beauties and faults of celebrated productions, to fit them for an unprejudiced study of books, and for a critical examination of structures." To Thomas Sandby, and his professorial lectures, of which the original manuscript is to be seen in the R.I.B.A. library, I hope to revert anon.

AERO.

Higher Buildings for London*

By DELISSA JOSEPH, F.R.I.B.A.

DURING the newspaper discussion on the subject of higher buildings for London I pointed out that, prior to the London Building Act of 1894, there were no restrictions as to the height of buildings in London, except such as were imposed by the Prescription Act, otherwise known as the Law of Light and Air. It was only when it was realised that buildings such as Queen Anne's Mansions (which, by the way, are only thirteen storeys high) could be erected without restraint, and when other buildings of great height, such as the Hyde Park Hotel, had been completed, that this new legislation was promoted, and, in the anxiety to safeguard the position, the height of new buildings was limited to 80 ft. from the pavement level, superimposed by two storeys in the roof. I submitted that, although it may be reasonably maintained that a height of 80 ft. is adequate in thoroughfares not more than 80 ft. in width, it cannot be logically maintained that this is an adequate height in streets of greater width than 80 ft., or in positions where buildings face open spaces such as Hyde Park and the Green Park, big squares such as Lincoln's Inn Fields, or the riverside such as the Thames Embankment. The Act of 1894 is defective in so far as it is inelastic, and in view of the changed conditions which have arisen in the intervening quarter of a century, the time has arived for a reconsideration of these restrictions.

Relaxation of the Building Acts

No loss of amenity would be experienced if buildings in such positions as facing the Bayswater Road, the Kensington Road, Park Lane, Piccadilly, Lincoln's Inn Fields, or the Thames Embankment were permitted to be carried to a greater height than the present 80 ft., and I suggested that, in such suitable open situations, buildings should be permitted to a height of 150 to 200 ft., I pointed out that the amount of additional accommodation thus secured would be enormous, both for business and for residential purposes, and that this relaxation of the Act would, in course of time, accomplish something substantial towards relieving the pressure for accommodation which is already so acutely felt in Central London, quite apart from the benefit to be obtained from the additional revenue which would be secured from the largely increased assessments which would result from the higher buildings. I was not suggesting the policy of "skyscrapers," although so many of the American buildings are eloquent of the magnificent architectural results that can be obtained in this type of building. I also made this proviso: that, if it were feared that, under this proposed permissive extension of the terms of the Building Act, monstrosities might be erected, there could be a provision for the right of approval of the elevations being given to the London County Council, or, better still, to the long-overdue Ministry of Fine Arts.

In considering the case for higher buildings for London, it would be well to give the exact words of the present Act, as follows: A building (not being a church or chapel) shall not be erected of, or be subsequently increased to, a greater height than 80 ft. (exclusive of two storeys in the roof and of ornamental towers, turrets, or other architectural features or decorations) without the consent of the Council. (Part V., Sec. 47.) The present limit of height is thus 80 ft. and two storeys in the roof, and, however wide a thoroughfare may be, or however open may be the outlook of a building, no greater height can be allowed. The 200-ft. buildings that I advocate I am proposing should be permitted only facing parks, the river, and large open spaces, but there is no reason why this idea should not be extended to give a right to increase the height of a building beyond 80 ft. to the extent of 1 ft. in height for every additional foot in the width of the street beyond 80 ft. These 200-ft. buildings would give approximately sixteen or seventeen storeys above the street level, and represent a height equal to about the height of the Monument. They would be modest structures compared with the buildings of thirty-six storeys suggested by Sir Martin Conway, or with the American "skyscrapers" rising from forty storeys to the fifty-seven storeys of the Woolworth building, which, by the way, has been aptly described as a "cathedral of commerce."

"Skyscrapers" not Advocated

It should be clear from what I have already said that I am not advocating "skyscrapers" nor schemes for costly clearances. I only advocate that, by making the Building Act more elastic, owners of property may, in suitable situations, be enabled to develop their land, from time to time, as the leases fall in, to an adequate height, and thus gradually to relieve the pressure of accommodation in London. At the same time I suggest that the largely increased rateable value which would result could be capitalised and applied in the widening of congested thoroughfares. We should bear in mind that, whilst in the City of London street improvements have been largely paid for from the funds of the Bridge House Estates, there is no such fund available for the widening of streets in other parts of London, and therefore this scheme for higher buildings would offer a new available source for the producton of the necessary capital for such public improvements. The other uses of such funds which obviously suggest themselves are the further equalisation of rates in the poorer boroughs and the financing of housing schemes in the outskirts.

Although I have so far dealt with the question of the pressure of accommodation for commercial and residential purposes in Central London, there is no reason why the programme I have advocated should not be carried further afield and applied to the existing main routes leading out of Central London to the four points of the compass, nor why similar advantages should not be taken for the adequate development round the numerous commons and open spaces within easy reach of the centre. Kennington Park and Clapham Common at once suggest themselves as illustrations of inadequately utilised building frontages. Then in London itself we have opportunities of increasing the height of buildings to a height equal to the maximum width of the street itself, as, for example, in Portland Place, which, being 125 ft. wide, would permit of building 125 ft. high. In the northern end of the City Road we have a width of 130 ft. In the widest part of the Euston Road a width of 160 ft. between the houses; Marylebone Road for a part of its length about 120 ft. Whitechapel High Street about 100 ft. Mile End Road 145 ft., and Clapham Road about 130 ft., so that if, in cases like this the Act would allow new buildings to be equal only to the width of the street, it would enable structures from 100 ft. to 160 ft. in height to be erected within the angle of 45 deg. from the opposite building.

It is obvious, for instance, that an adequate development of, say, the Clapham Road with buildings of 130 ft. on either side would offer additional accommodation for thousands of persons within a comparatively few minutes of the City and the West End who at present have to travel many miles to and from their work; while the possibilities for business premises afforded in Euston Road by carrying the buildings 160 ft. in height would make the mouths water of the numerous commercial undertakings which are now clamouring for space demanded for the adequate development of their businesses in the centre of London. The case for building higher on the River Embankment is unanswerable, as is the case for building higher opposite open spaces; but in the heart of London there are some almost equally unanswerable cases when one realises a few figures like these: Adelaide Place, London Bridge, 130 ft. wide; Hanover Square, 280 ft. wide; Trinity Square, 380 ft.; Smithfield, 340 ft.; Finsbury Square, 410 ft.; Lincoln's Inn Fields, 645 ft.

The fear expressed as to the adequacy of the London strata for affording a foundation for buildings of 200 ft. high is answered by the fact that the London clay is in places as deep as from 400 to 600 ft. The fear that some writers have expressed that high buildings would overshadow St. Paul's need not be considered seriously, as St. Paul's Churchyard is too narrow to receive higher buildings. It is a mistake to assume that business accommodation must necessarily be limited to the City.

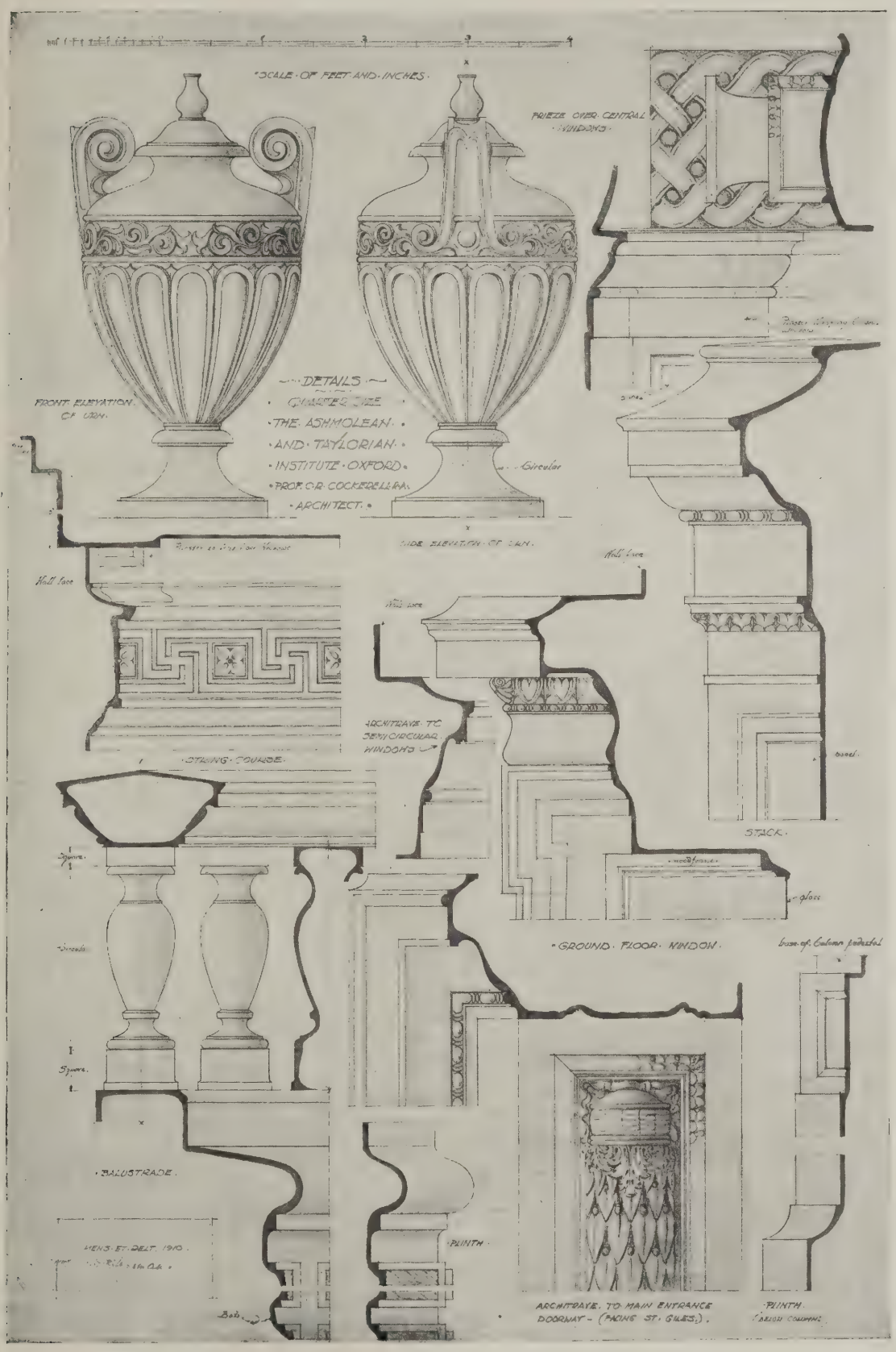
Interesting Precedents

There is an interesting precedent for exceeding the 80 ft. in the case of the city of Manchester, where there are many buildings at least 110 ft. in height, the local regulations, as I am informed by Mr. J. Swarbrick, being on the very generous lines that a building may be 2½ times in height the width of the street in which it is situated. There is a well-known illustration of higher buildings on the riverside in the case of the Royal Liver building at Liverpool, which stands 170 ft. above the level of the river bank, comprising ten storeys, varying in height from 23 ft. to 15 ft.; and there are five storeys in addition in the square of the towers, the total

* Substance of a paper read before the R.I.B.A. on March 29.

Measured Drawings. 1.—Details from the Ashmolean Museum and the Taylorian Institute, Oxford

Measured and drawn by E. Musman, M.A., A.R.I.B.A.



These urns, mouldings, newels, and other details have the perfection of form and the surpassing beauty of design of the classical models from which they are imitated. They readily lend themselves to the adornment of modern buildings of good design.

ght to the top of the towers being 312 ft. Aubrey Thomas, the architect of that endid building tells me he has cted the Tower Buildings to a height of ft. to top of parapet, with a tower ng to 153 ft., besides several other dings to a height of over 100 ft.

London is to hold its place as the ld's centre, some such development as ve ventured to indicate must be under-en. I submit that the gradual develop-nt of London upon the lines indicated ld, in fact, be of the nature of a piece grandiose town-planning. Instead of e suggestions increasing the traffic pro-n they would contribute to reducing it, the more business and residential nises provided in central positions the traffic would result between the centre the outskirts, at the same time mate-ly helping the housing problem and re-ing the pressure at present existing in outskirts.

dvantages of the Proposal

ondon is full to overflowing, both in the ness and residential quarters, and the and for accommodation is completely atisfied. Building outwards will only ease the traffic problem, and building ards, therefore, is the only solution, by the suggested upward building, a rateable value would be established n which municipal loans could be ed and be applied to the widening of gested thoroughfares in the inner ropolis. Here is an example of a prac-l scheme offering a gradual solution he problem of the unsatisfied demand business and residential premises in don, which must not be allowed to be cured by impracticable suggestions as have been put forward in the course e discussion.

trust I have now made out the for a modification of the London ding Act so as to permit: (1) Buildings to 200 ft. in height opposite parks, lic gardens, open spaces, and the river-. (2) Buildings equal in height to the h of a street when that street is over . in width, provided that: (a) The rear le is within 63½ of 16 ft. above pave-t level. (b) The structures are fire-sting and fitted with staircases afford-alternative means of escape, and (c) elevations have been approved by the don County Council or the hoped-for istry of Fine Arts.

trust I have shown that the increased ommodation which the gradual develop-t under these proposed relaxations of Building Act would afford to an in-quately developed London would ply an urgent need; that this develop-t would afford a new and vast un-ed source of assessment; that this new ssment would form the security for e public loans, which could be applied the widening of congested thorough-s, the equalisation of rates, and the ncing of municipal housing schemes; that all this could be accomplished out detriment to the beauty of Lon-and without recourse to the "sky-per," and that all these benefits to don and its inhabitants could be ob-ed by a couple of short clauses added he present Building Act. We must efore look to our Council here to take first steps towards realising the new litions. The Council have themselves blished a precedent by drafting a Bill mend the law of light and air because rustrates the development of London. Let them now draft a Bill to amend the London Building Act so as to permit, with proper reservations and control, the erection in London of higher buildings.

Discussion

The discussion which followed the preceding paper was, in the words of the chairman (Mr. J. W. Simpson, P.R.I.B.A.), one of the most spirited, informing, and—in the best sense of the word—entertaining he ever remembered listening to within those walls. The very subject of Mr. Joseph's paper was, of course, one to sow dissension, or at least cause heated discussion, between Londoners—between men like Sir Martin Conway, Mr. Arnold Taylor (the lately retired vice-chairman of the L.C.C.), Sir Solomon J. Solomon, R.A., and Professor Beresford Pite, who all assured us by their vehemence that "they loved their London" and were therefore very much for, or very much against, the suggested radical reform.

Sir Martin Conway, to whom it fell to move the vote of thanks to Mr. Joseph, strenuously denied that his views were at all "advanced." The British people were most extraordinarily conservative, he explained, and when one went to America one went with a prejudice against the sky-scraper, but it would take him only one day in New York to be converted. And, after all, what was the matter with a sky-scraper? Was the Victoria Tower a sky-scraper? The name was a mere nick-name. Let them put it out of their heads. The Tower of Babel was a reasonable height, nobody thought of calling that a skyscraper. He lived thirty miles away from London, and if they came down there with their garden suburbs—he did not want them. London would have ten million inhabitants before you could turn round. Where were you going to put them? Garden suburbs would make London so big that you could never get out of it. It would take a day's journey to get out into the country. The result of this "horizontal pressure" was that they could not afford to keep even their City churches standing: it tended to destroy every ancient building in London and replace it with an office block. He did not care whether the buildings were to be 200 ft. high or 2,000 ft. high, but what he did think worth emphasising was that if they built a large enough building to hold a large enough number of people within that building they could have their co-operative stores, their club, their cinema; and they would get on to the soil of London a much larger population than they could get at present, and it would be better housed.

Mr. Arnold Taylor declared himself as frankly in opposition to the proposals put before them. He said that he gave place to none in his love for London and desire for its beautification, and it was because of that he was going to oppose it. One of the most beautiful spires in New York—that of Trinity Church—was completely spoiled by high buildings rising 150 ft. above it. Introduce those great gaunt buildings into London and put them beside Bow Church and imagine the result. Could one imagine anything more destructive of the beauty of London? He went on to point out the danger to life from fire and disease. In London they had not the water pressure to send a jet much more than a hundred feet, and their escapes were only ninety feet. High buildings for domestic purposes were altogether impracticable. He urged them to make full use of the Act as they had it to-day. Most of the buildings in Bloomsbury could, under the present Act, be raised another three or four storeys if they were so anxious to go high.

Mr. John Hopkins, M.P., remarked that it was no use telling them these buildings were impracticable, because other countries had proved that they were not.

Mr. R. W. Granville Smith, chairman of the London County Council Improvement Committee, said that Mr. Joseph was going to hem in the oases of London by sky-scrapers. The river would be walled off, and London would become an impossible place to live in.

Mr. Solomon J. Solomon, R.A., as a painter, thought it a great pity to rob London of its small share of sunlight, and said that any raising of the sky-line would have a depressing effect. But, nevertheless, he thought a high building here and there would have a cathedral-like effect. On the south side of the Thames high buildings might be erected, and their shadow would fall upon the river and not on other streets and houses; if people could be housed near the river the water might be made use of as a highway to bring people to and from their work.

Professor Beresford Pite, F.R.I.B.A., criticised Mr. Joseph's paper very severely. The author had put forward no arguments, and on one point might have deluded his hearers. If a building erected on the Embankment was to be two hundred feet high in the front, it followed that it must be two hundred feet high at the back—overshadowing the Strand. Mr. Joseph had said nothing about that. As for Sir Martin Conway, they all knew Sir Martin Conway's powers as an essayist, and they all knew Sir Martin's powers as a mountaineer, but they did not want him mountaineering in London.

Sir Walter Reynolds, chairman of the London County Council Building Acts Committee, intimated that that very day there had been set afoot by his committee an enquiry into the present height restrictions upon London buildings. In a forceful protest against any copying of American buildings, so far as height went, he said that there was no such thing as a fire-proof building, and stated that in New York the brigade was composed of four times more men, and was six times more expensive, than the London Fire Brigade.

Publications Received

"The Practical Engineer." Electrical Pocket Book and Diary, 1920. 21st issue. Price 1s. 6d. net. The Technical Publishing Co., Ltd.

"Cement" By Bertram Blount, F.I.C., assisted by William H. Woodcock, F.C.S., and Henry J. Gillet. Price 18s. net. Longmans, Green, and Co.

Concise Costing for Housing. An improved system of quantity surveying, with explanatory tables, illustrations, and practical examples. By T. Sumner Smith, M.Q.S.A., F.I.Ar., with an introduction by Raymond Unwin, F.R.I.B.A. Price 5s. 6d. post free, Technical Journals, Ltd., 27-29, Tothill Street, Westminster, S.W.1.

Domestic Architecture in Australia. Edited by Sydney Ure Smith and Bertram Stevens in collaboration with W. Hardy Wilson. Price 21s. net. Angus and Robertson, Ltd., Sydney and Oxford University Press, Amen Corner, London, E.C.

Steelwork in the New London County Hall

By E. LAWRENCE HALL

THIS building is not a steel-frame structure under the 1909 Act, the architectural design requiring such substantial piers of brickwork and stone in the façades to the road and river and to the principal courtyards as to make stancheons unnecessary. It was decided to build the walls facing the secondary courtyards to comply with the Act of 1894, and also to build the corridor walls, in most cases, of sufficient thickness to carry the floors. The whole of the engineers' assumptions and calculations were examined by the County Council, who have in this way been through some thousands of sheets of closely written foolscap. This may seem a very great deal of figuring for the weight of steel involved, but is easily understood when it is explained that much of the work was calculated three times, and a great part of Block 1 as many as five times, owing to alterations in the design. The number of steelwork drawings prepared has been about 800. The scheme was divided into sections A, B, C, and D and sub-divided into blocks, Section A consisting of five blocks (Nos. 1 to 5), Section B, four blocks (Nos. 6 to 9), Section C, three blocks (Nos. 10 to 12), and the unbuilt Section D, three blocks (Nos. 13 to 15), which have been designed but are not included in the present contract.

On the first or principal floor the rooms are generally 22 ft. wide and the corridors 10 ft. wide, but above the second floor the rooms are wider and the corridors narrower, the floor girders being in some cases cantilevered over the corridor walls or stancheons.

The flêche is possibly the most interesting feature of the steel frame, as it is the most prominent feature in the building. The topmost storey consists of a vane in the form of a ship standing on a ball supported by four scrolls set on the diagonals. This part is to be constructed entirely of teak covered with copper, without recourse to a steel frame. The vane weighs about seven tons and is anchored by means of long bolts to the steelwork below.

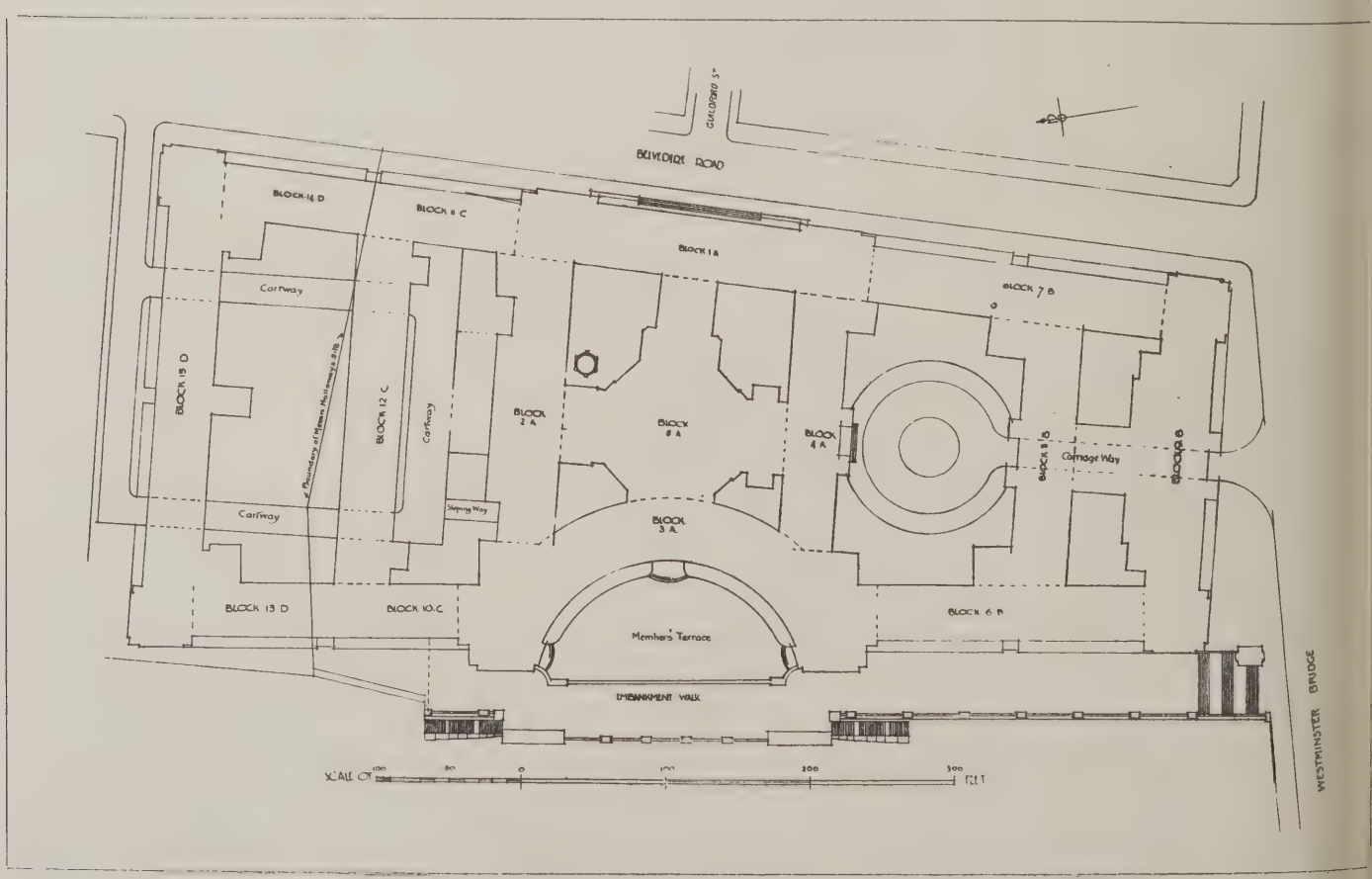
The next storey, the lantern, is of light steel lattice framing about 23 ft. high, the architectural outline being constructed in teak and clothed with copper. The weight down to this point is about twenty-four tons. The third storey down may be called the base of the flêche. It is 21 ft. square at the base, tapering to 16 ft. 6 in., and is 23 ft. high above the eighth floor level, the topmost 10 ft. being octagonal on plan and the lower part square with projecting faces. The four corner legs are formed of pairs of 5-in. by 5-in. by ⅝-in. angles starred (in the form of the letter X) to a height of about 11 ft.; above which point the outer angle is continued upwards, but the inner one is stopped, and two pairs of angles connected by means of gusset plates are branched out and carried up a further 11 ft. obliquely to take two of the eight legs of the octagon. At about one-third the height of this storey the plan is braced by horizontal latticing.

The framing is complicated by the irregular plan and the changes of outline, as well as by the provision of a window in rear face, added to which the curvature the plan of the building did not tend make matters easier. The base is carr at the eighth floor on a pair of longitudi compound girders, framed into two spe ally heavy roof girders built up of 36- webs with angles and flange plates, end having to be tapered and curved keep within the outline of the roof, a for the same reason, the main front lon tudinal girder had to be kept 3 ft. bel the floor. The flêche loses itself in the r at the eighth floor level, but all the fra ing below is stiffened to carry its dead lo of seventy-five tons, and to resist a wi pressure calculated at 40 lb. per sq. ft.

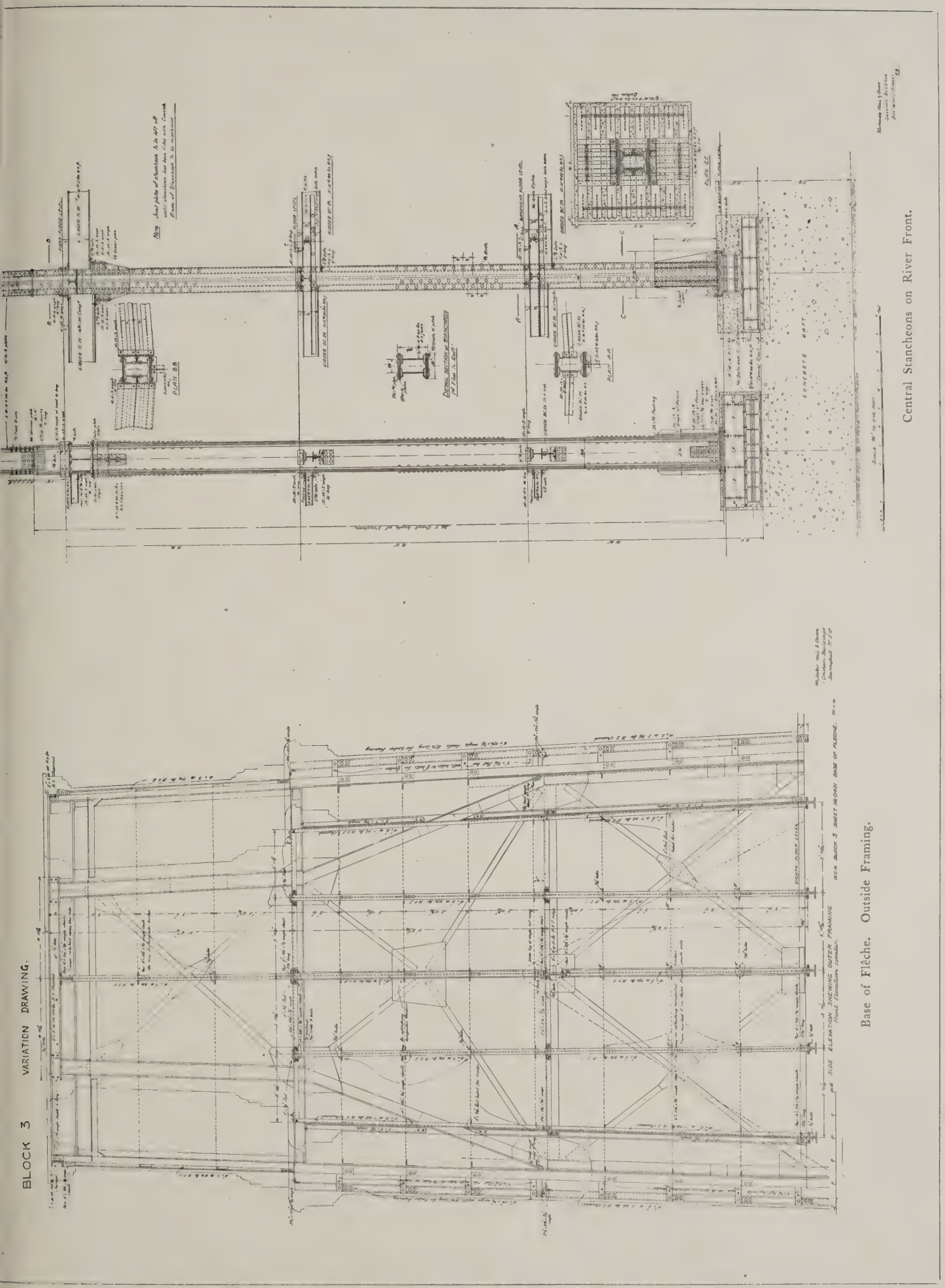
Block 3 is the only block in whi the rafters of the roof are bent to the o line of the tiling. An 8-in. by 4-in. joi curved on plan, is carried on 5-in. 4½-in. joist uprights by means of tee cr pieces, and has cast-iron stools for atta ing the rafters, which are continued do and, in their turn, carry the 6-in. by 3- channel supporting the gutter. A simi system of roof girders and wind bracii but on a lighter scale, is adopted to ev bay round Block 3.

The two rear legs of the flêche frami over one of the lobbies to the coun chamber are carried on a girder, which h also to take the straight end wall Block 5 and the curved rear wall Block 3, necessitating a "Y" shape plan, the axes of the two blocks not bei in line. The girder has a web 60 in. depth and ¾ in. in thickness except to c of the branches of the "Y," which is ⅝

* Extracts from a paper read before the Concrete Institute.



BLOCK PLAN OF NEW COUNTY HALL, LONDON.



Central Stancheons on River Front.

Base of Flèche. Outside Framing.

NEW COUNTY HALL, LONDON. DETAILS OF STEELWORK.

The "Y" girder, with its load of 660 tons, is in turn carried on the two box girders, which were necessarily shallow and are therefore heavy. Each of these girders has three webs, the central web ¾ in. and outer webs ⅝ in. in thickness by 32 in. in depth, the weight dealt with being some 435 tons on the left girder and 410 tons on the right. Four stancheons, composed of pairs of 20-in. joists and 18-in. flats, continue this part of the framing down to the ground floor, and it is similarly continued down to the raft.

The retaining walls are of mass concrete, six to one, about 23 ft. high, 10 ft. thick at the base, tapering to 4 ft. thick at the top. Massive blue brick piers, each 12 ft. 6 in. by 3 ft. 9 in., round the arch, support the front wall and the colonnade. The boundary of the present site is just within the north-east corner of Block 12, but by arrangement with Messrs. Holloway, the upper storeys are built complete, overhanging the boundary, the girders being cantilevered over temporary stancheons. When the present boundary wall has been removed and the outer wall of Block 12 completed to carry the girders these temporary stancheons will be taken out; their bases contain sand boxes to facilitate removal.

The thrust from the stone vaulting over the members' entrance in Block 4 is restrained by a steel frame of horizontal and vertical beams on the wall, the abutments otherwise being 9-in. walls; the haunches were filled with concrete to a calculated height to keep the line of equilibrium in the arch. Stone vaulting and a dome are also carried over the carriage drive through Blocks 8 and 9, and some steelwork was provided about these, but generally the abutments in brickwork and masonry were sufficient to take the thrusts. The council chamber, as last designed, and now erected, has a trabeated treatment with a flat ceiling. The span being 66 ft. between galleries called for the fairly heavy girders.

The committee rooms on the first floor of Block 2 are two storeys in height, and the main front wall is carried on girders over these rooms. The partitions dividing the series into separate apartments are removable by sliding down between the walls on the floor below. Block 2 has a flat roof, as have also Blocks 5 and 12. Generally the upper part of the roof is constructed with an "A" frame of 10-in. joists, tied at the middle height with pairs of angles, supporting steel joist ridge and purlins, which in turn carry the 4-in. by 3-in. joist rafters. A system of diagonal bracing formed of 2½-in. angles, crossed, stiffens the roof at the collar level. Two types of dormers and three of skylights are also detailed on the drawing. The roof slopes are to be of concrete 7 in. in thickness covered with red tiles of Italian pattern. Block 1 from the first-floor upwards is practically a steel-framed building. A stone colonnade occupies the front and drives the wall proper and the stancheons off the piers below. The stancheons stand on triple joist compound girders, the ends of which rest on grillages of two tiers of joists bedded on the massive brick piers. Gusseted brackets are placed under the second-floor girders to resist racking, and for the same purpose 7-in. by 7-in. by ¾-in. angle cleats are used above and below each girder on the upper floors. It may be said here that all main connections are made with rivets wherever possible throughout the work. The ventilation of the building is by means of air ducts, generally under corridor floors.

In two cases in Block 9 it was found impossible, owing to architectural considerations, to get a girder of sufficient depth to carry the work above, and resort was had to the device of placing a heavy girder at a higher level and slinging a shallow girder from it by means of 8-in. by 6-in. joist hangers to take the weight of one storey only. The upper girder, which is at the second-floor level, has a web 5 ft. deep by ⅝ in. thick, and the top flange is formed of two 6-in. by 6-in. by ⅝-in. angles and four 16-in. flange plates; but so great a width was not allowable for the lower flange, which had to be concealed in the thickness of the wall, and was therefore built up of four 6-in. by 4-in. by ⅝-in. angles and four 10-in. by ⅝-in. flats; 8-in. by ½-in. gussets hold the joist hangers to the web by means of a piece of 8-in. by 4-in. channel and two pieces of 3½-in. by 3½-in. by half-inch angle.

The lower ends of the hangers are slotted to admit ⅜-in. gussets, which form part of the web of the first-floor girder, and are fastened to the webs of the hanger joists by four 3½-in. by 3½-in. by half-inch angles. The lower girder is also a built girder, with ⅜-in. web, 18 in. deep, and pairs of 3½-in. by 3½-in. by ⅜-in. flange angles.

Correspondence

Unification and Registration

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It must always be gratifying to the parents when one of their offsprings is received with open arms into those circles which have hitherto excluded it.

In 1912 I publicly advocated, pending statutory registration, the formation by agreement between the parties concerned, of a Council of architectural bodies to deal with matters of general professional interest. In your columns of October 5, 1919, I returned to the charge by suggesting that the Architects' War Committee, which had been formed very much on the lines I had previously indicated, should be re-constituted into a Federated Council of British Architectural Societies, and I invited anyone with a better scheme for unification to give the profession the benefit of it, but no one took up the gauntlet.

My suggestion was afterwards adopted by the Council of the Society and brought officially to the notice of the Architects' War Committee and of the R.I.B.A., neither of whom would have anything to do with it.

On March 22, 1920, the general body of the R.I.B.A. passed a resolution approving of the appointment of a committee composed of representatives of British Architectural Societies to prepare a scheme of unity and registration. Further, the President of the R.I.B.A. is reported to have stated that in doing so they had formed a body which, if made permanent, would become a General Council of architects representative of the whole profession. In other words, unity by federation.

However, it is of little importance as to who gets the credit so long as the object is achieved. The great thing is to get a move on and to keep on moving until the end is gained.

C. MCARTHUR BUTLER,
Secretary of the Society of Architects.

Societies and Institutions

Architectural Association.

The new club rooms will be open to all members from April 12 onwards, from 10 a.m. to 10 p.m., including Saturdays. An exhibition of students' drawings specially sent from Mass. Institute of Technology, Boston, and L'Ecole Nationale des Beaux-Arts, Paris, together with a selection of A.A. Students' work, will be on view from April 12 to 20, inclusive, from 10 a.m. to 10 p.m. The conversazione and dance postponed from March 26 will be held on April 20. Tickets already issued will be available for the new date.

Surveyors' Institution.

Mr. H. M. Cobb, O.B.E., Member of Council, and Mr. J. D. Wallis, Member of Council, have been nominated to give evidence on behalf of the Surveyors' Institution before the Select Committee of the House of Commons on Increases of Wealth (War). Mr. Cobb will deal more particularly with the proposals of the Board of Inland Revenue in their effect on rural property, Mr. Wallis dealing with the urban and industrial side. Mr. J. Cuthbert Lake, F.S.I., has been asked to give evidence on behalf of the Institution before the Departmental Committee on the Rent, etc. (Restriction) Acts. Mr. Lake has been put into possession of the views of the County Branches of the Institution on this subject.

University of Liverpool.

The examination lists for March, 1920, of the University of Liverpool are as follows: Faculty of Arts Diploma in Civic Design: Holliday, A. C., Subhung, S. Certificate in Civic Design—First Class: Butler, B., Jones, R.D., Knowles, G. J., Schofield, A. H. Second Class: Crowther, J. H.

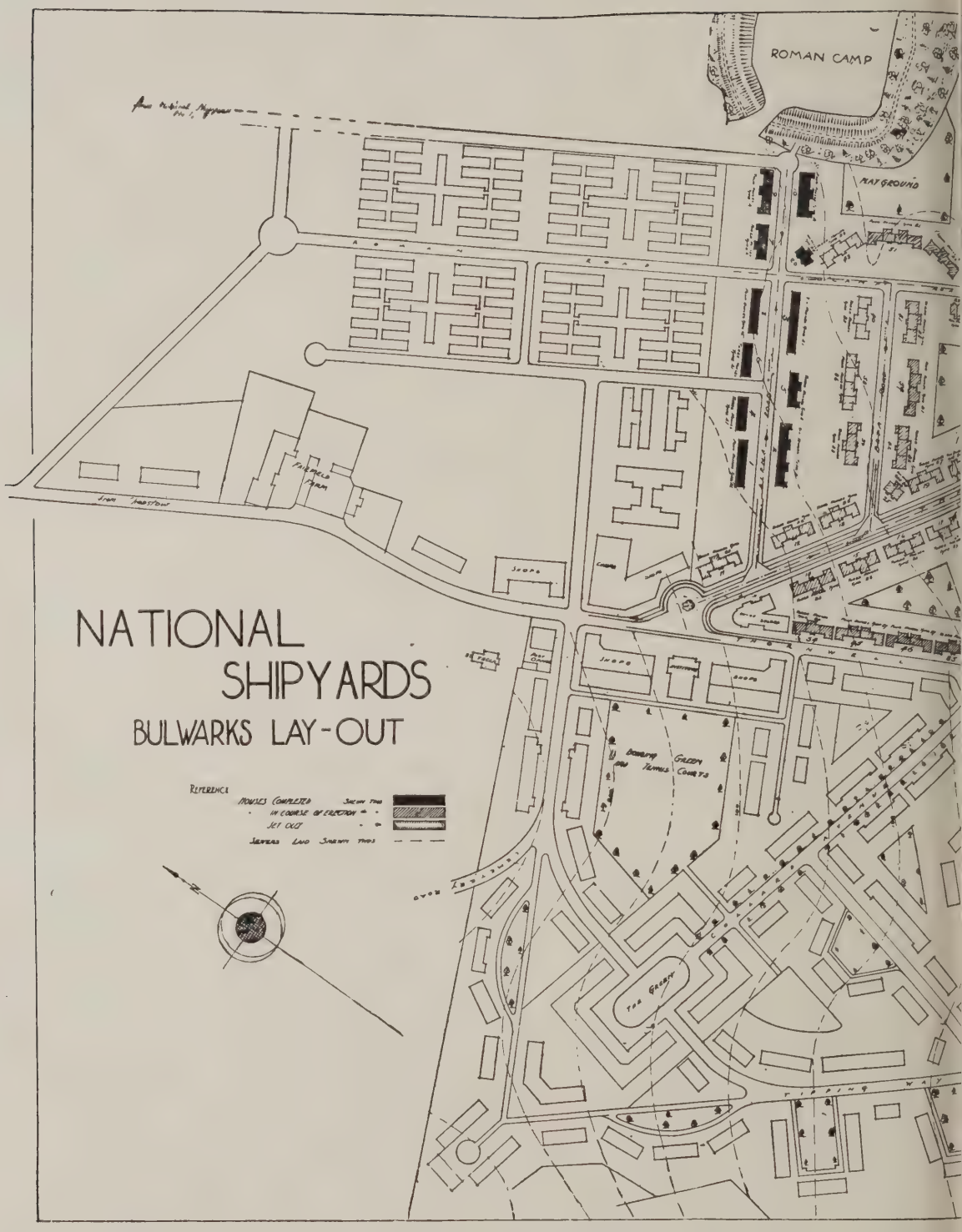
South Wales Society of Architects.

A meeting convened and presided over by the president of the South Wales Society of Architects, Mr. Ivor Jones, A.R.I.B.A., of Cardiff, has been held at Newport, when it was decided to form a branch of the Society for Newport and district. The objects are to further the interests of the profession in the district and to provide special facilities for study amongst the younger members of the profession, stimulating their interest by competitions throughout South Wales.

It has been generally felt that decentralisation would better serve the needs of so large an area as that embraced by the present body and make for greater unity amongst its widely diffused members by enabling them to get in touch with one another in their own district. It would also bring into the Society members of the profession whom time and distance has prevented from attending the meetings at Cardiff, thus making the Society truly representative of the whole of the architectural profession in South Wales. It is intended to make the new branch self-governing within its own district whilst still actively co-operating with the Council of the South Wales Institute, on which it will have direct representation. The following officers were elected for the ensuing year: Messrs. C. F. Ward, F.R.I.B.A., president; C. E. Tebbs, A.R.I.B.A., hon. secretary; Frank Swash, F.R.I.B.A., treasurer and librarian; Committee, Messrs. Walter Rosser, M.S.A., C. E. Page, Lic.R.I.B.A., R. Fisher, A. F. Webb, H. Rowe.

Town Planning. 3

H. E. Farn



This layout of a housing scheme which has been carried out by t
comprises 1,150 houses on the southern slope overlooking the Se

s Village, Chepstow

, Architect

mmodate workers in the National Shipyards in the Chepstow district
centre is in the Thornwell Road, which is nearly midway of the plan.

The Sixth Building Trades Exhibition

Preliminary Survey

INCE the last-preceding Building Trades Exhibition, held at Olympia in 1913, how much history has been de! The Exhibition was intended to biennial—that is to say, to be held once two years—and the sixth of the series due in 1915, when it happened that Great War was in full swing. As the rs rolled by and the awful war still went all building, except that needed by the te, came to a dead standstill. But in-tiveness did not cease. Rather it was ngly stimulated by the exigencies of occasion. There was an imperative nand for rapid construction, and this met in many cases by the introduction novel methods and materials. Factory nning has undergone considerable nges under the impetus for swift pro-tion, and the necessity for keeping the nition workers healthy, contented, and, sequently, at a high state of efficiency, ught into actual use everywhere the ories as to welfare work that previously been translated into action by only a of the more enlightened employers. e consequently rather important de-opments in factory planning and con-ction are not likely to be allowed to e; and doubtless we shall see many lences of them at the exhibition.

'hen, again, the housing movement has n prolific of inventions and expedients ing for their chief objects economy and idity of construction. Scores of new hods of building and a few somewhat miliar forms of material have been in-luced to and accepted by the Ministry Health, and some of these will doubtless open to inspection at the Exhibition, ch for the architect and the builder be even more valuable than any cific housing exhibition could be, ause it enables the one to make his synthesis of the unassembled elements units, and the other to inspect them e closely than would be possible when were built in. Of the ideal way, en-ng both analysis and synthesis, there of course, many examples, several ds being built of the materials that are displayed as *disjecta membra*. Inven-did not cease when the war began, but, we have seen, was greatly stimulated it, and its application was by no means fined to factory planning and the ign and equipment of working-class llings. The Exhibition will show that as had free scope in many other direc-ns, and that, as a whole, the exhibition nore interesting than any of its prede-ors.

Everything is now to be found there, n a stock brick to a completed house. ny exhibitors go to considerable ex-se in the displaying of their materials contrivances; sound, habitable struc-s from the plans of well-known archi-s are erected, and often can be bought ight, removed in parts, re-erected and pied as a comfortable home.

Mr. Greville Montgomery, who, with brother, Mr. Hugh Montgomery, are responsible promoters of the exhibition, n ex-M.P. for the Bridgwater division, nerset, which he represented as Liberal nber from 1906 until 1910.

Materials for a preliminary survey, made advance of the opening of the Exhibition, which opens on April 10 and closes on April 24, have been supplied to us by a large number of exhibitors. Some of these exhibits, with others, will be treated more fully in our next issue. A plan of the Exhibition appears on page 456. The block from which this plan is reproduced was most courteously supplied by our contemporary "The Builder."

Concrete Construction

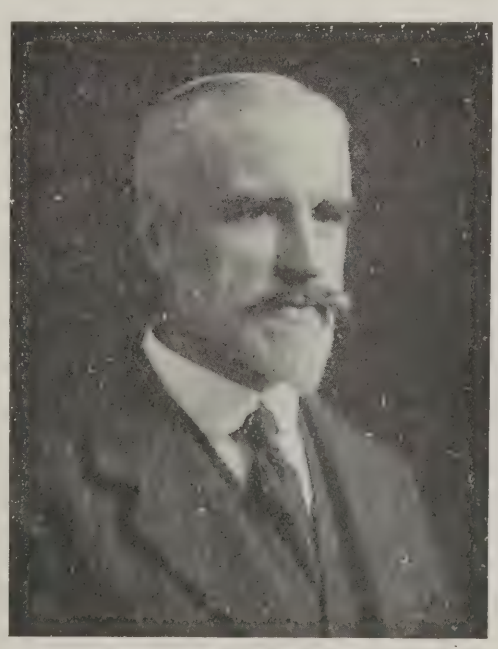
The British Lean Co., Ltd., 11, Suffolk Street, Pall Mall, S.W.1 (Row J, Stand 161), show their blockmaking machine and specimens of its products.

Channello Concrete Construction Co., 8, Warwick Court, Gray's Inn, W.C.1 (Row F, Stand 111), exhibit a concrete cottage built on the Channello system. Two block-making machines are also shown.

Visitors to the Building Trades Exhibition at Olympia should not fail to inspect the permanent collection of concrete products arranged by the Concrete Utilities Bureau, of 35, Great St. Helens, London, E.C.3, at 143, Grosvenor Road, near Vauxhall Bridge, where they will find every exhibit of interest. This Exhibition is open daily (Saturdays excepted) from 10 to 4, no charge being made for admission.

Dry-Walls, Ltd., Ulster Chambers, 168, Regent Street, London, W.1 (Row F, Stands 112 and 113), show their "Dry-Walls" method of construction, which makes use of poured concrete in the form of a solid wall, having an outer half of ballast concrete and an inner half of clinker concrete. Various sections of walls constructed on this system indicate clearly the practical application of a central vertical damp-course, and the novel method of ensuring a perfect lap at all points.

Ingersoll-Rand Company, 165, Queen Victoria Street, London, E.C.4, have a stand (Row B, No. 16) largely constructed by means of their cement-gun, which will be shown at work. They show also a portable air compressor plant, and everything necessary for the use of the cement-gun under ordinary conditions applying to contractors and builders.



MR. H. GREVILLE MONTGOMERY.

The Ironite Company, Ltd., 11, Old Queen Street, Westminster, S.W.1 (Row F, Stand 93), show "Ironite" cement for flooring, Aero blocks with two and three continuous cavities, and machine for making the blocks.

Johnson's Reinforced Concrete Engineering Co., Ltd., Lever Street, Manchester (Row H, Stand 142), demonstrate the Keedon and Lattice system of reinforced concrete construction, and demonstrate also the "Bricktor" reinforcement for brickwork. Attention is called to the claims of the rigid yet adjustable fixing of the stirrups and fitments to the main reinforcing bars, which has the dual advantage of forming a rigidly connected stirrup, but which can be adjusted to suit the variation of sheer stress. Johnson's lattice, made from high-tension steel wire, is one of the leading fabric reinforcements for roads, floors, roofs, decks, etc. The "Bricktor" system of reinforcement for brickwork is demonstrated very effectively in cantilever walls, proving that brick walls reinforced with "Bricktor" reinforcement do not require a continuous foundation.

J. A. King and Co., 181, Queen Victoria Street, London, E.C. (Row F, Stand 96), show concrete partition blocks, wall blocks, composition flooring, and high relief glass in copper glazing for domes.

The Ransome-verMehr Machinery Co., Ltd., of 14-16, Grosvenor Gardens, London, S.W., have two stands, No. 184/K, on the ground floor, and No. 26 in the gallery. They show the Ransome "New Principle" block and slab-making machine, the Ransome concrete mixers, the firm's tar macadam plant, the Ransome barrow, a hand mixer for concrete, tar macadam, or chemicals, a tip wagon mounted on 24-in. gauge wheels, a Ransome Type "D" steel piling, and a pile helmet.

The principal exhibit of the Torbay and Dart Paint Company, Ltd., 26-28, Billiter Street, E.C.3 (Row G, Stand 121), is a garage showing concrete blocks, "Novoided" waterproof face, timber doors and caves preserved with "Quelle," roofing tiles treated with "Everok" solution, and the interior decorated with "Rencrete" stains.

Unit Construction Co., Ltd., Ulster Chambers, 168, Regent Street, W.1 (Row H, Stand 147), show by means of photographs, and otherwise, their special methods of factory construction and cavity walling, and the Unit method of concrete block construction.

Messrs. Vickers, Ltd. (Building Department) are showing (Row D, Stands Nos. 71 and 72) a portable concrete brick machine for hand power (making six bricks at a time); a concrete partition slab machine, for making slabs of varying thicknesses from 2 in. to 4 in. (5.1 to 10.2 cm.); the Vickers-Hobbs block machine, producing blocks, hollow or solid, on the face-down system; a concrete interlocking roofing tile machine, consisting of a light portable plant for producing interlocking roofing tiles of any desired colour or surface; a selection of standardised doors, windows, gates, dressers, now being produced in their factory for supplying the

building trade. Another exhibit, by Messrs. Petters, Ltd., and Vickers-Petters, Ltd., consists of a Petter Junior electric lighting set, comprising a Petter Junior engine manufactured by Petters, Ltd., of Yeovil, coupled to a 2¼ kw. Metropolitan-Vickers dynamo, generating current at 50 volts. On this stand there are displays by Messrs. W. T. Glover and Co., who are showing samples of their patent glazing system; Messrs. The Ioco Rubber and Waterproofing Company, Ltd., who will exhibit specimens of proofed cloths and "duck," insulated cotton, rubber tiles, hose, leather cloth, and other rubber manufactures; and Messrs. The Metropolitan-Vickers Electrical Company, Ltd., which firm will have on view a large variety of electrical heating, cooking, and lighting appliances and fittings.

Messrs. Winget, Ltd., 24, Grosvenor Gardens, Westminster, London, S.W.1 (Row G, Stand No. 120). On this stand is shown the 32 in. "Winget" standard block-making machine, which will be seen at work; the "Winget" system of building on the continuous cavity system with concrete blocks and slabs, is also being demonstrated, together with the "Winget" stone-breaker and crusher, and the concrete roofing-tile machine for manufacturing tiles. A further exhibit which will be shown in operation is the "Winget" chain-spade mixer for mixing semi-dry concrete.

Electric Light Fittings

F. and C. Osler, Ltd., 100 Oxford Street, London, W.1 (Row E, Stand 88), show electric light fittings in wrought and cast metals, English alabaster, and cut crystal glass.

Holophane, Ltd., 12, Carteret Street, Queen Anne's Gate, London, S.W.1 (Row G, Stand 128), show a complete range of the largest forms of scientifically-designed prismatic illuminating glassware for the correct light distribution and diffusion of modern electric lamps. The use of this prismatic glassware is bound up with a system known as the Holophane scientific system of illumination. One of the great advantages claimed for Holophone prismatic glassware is that it is possible by means of design to obtain any type of light distribution necessary for every problem in artificial illumination, enabling, with its use, lighting installations to be carried out with absolute certainty of illumination results. The series of refractors shown for street lighting are made up and assembled in a novel way. With exterior lighting roughened or fluted glassware is able to collect dirt more readily than a plain polished surface. To eliminate this disadvantage Holophane refractors are made up of two bowls, one contained within the other. The outer bowl has refracting prisms cut on the inside face, and the inner bowl, diffusing prisms cut on the outside face. The two are assembled and sealed, thus a smooth surface is obtained on both the inner and outer surface of the unit.

Floors

Homan and Rodgers, Ltd., 17, Gracechurch Street, E.C. (Row F, Stand 110), exhibit details of their system of construction of hollow-brick fireproof flooring.

Kleine Patent Fire Resisting Flooring Syndicate, Ltd., 133-136, High Holborn, W.C.1 (Row F, Stand 102), show sections of their fire-resisting floors, roofs, and staircases of reinforced hollow bricks.

The Leyland and Birmingham Rubber Co., Leyland, near Preston (Row D, Stand 57), include in their exhibits examples of rubber and "Rublino" tiling, floor coverings, India-rubber mats, rubber roadway blocks, etc.

Siegwart Fireproof Floor Company, Ltd., Thanet House, 231, Strand, London, W.C.2, show a small 7¼-in. Siegwart floor resting on the top flange of supporting steel girders, and a 5-in. flat roof or floor over, one end resting on the concrete encasure to the supporting steel girder, and the other end resting on top of the joist, showing that both methods are equally satisfactory from the constructional point of view, although it is also advantageous to have the joist encased, as it fireproofs same and it saves head-room. (Row A, Stand 1.)

"Thermos" Flooring Co., Ltd., 171, Queen Victoria Street, London, E.C.4 (Row B, Stand 24), show floors which are jointless and hygienic.

Venesta, Ltd., 1, Great Tower Street, London, E.C.3 (Row E, Stand 86a), show Venesta ply panels, panelling, and parquet flooring.

Heating and Cooking

Candy and Co., Ltd., 87, Newman Street, Oxford Street, W.1, show examples of their "Devon" fire, for which it is claimed that it is not only beautiful to l at but economical of fuel. The firm sh also a selection of their other manu tures, such as wall tiling and paving ti (Row G, Stand 133.)

Carron Company, Carron, 15, Up Thames Street, London, E.C.4, and I kirk (Row K, Stand 191, and Row Stand 208), show a selection of t ranges; high-class fireplace suites several finishes, including armour-bri interiors, dog grates, and wood chim pieces; examples of anthracite stoves, fires and cookers. A considerable sp on the stand is set apart for the exhibi of electrical cooking and heating app tus. The manner in which electric hea can be attractively fitted to existing ch ney breasts is effectively shown in typical example in the form of a comp electric fireplace.

The Davis Gas Stove Co., Ltd., Oxford Street, London, W. 1 (Row Stand 137), have a working exhibi geysers and hot-water apparatus, cooking apparatus, gas fires and interi and radiators.

Ewart and Son, Ltd., 346-50, Eu Road, London, N.W.1 (Row K, S 186), show among their specialities water-heaters, etc., a new one, the " dustria," specially introduced for us housing schemes. Their cowls and sm cures are also on view.

Hartley and Sugden, Ltd., Atlas Wo Halifax (Row C, Stand 33), show s tions of their boilers and heating a ances. Several post-war products are cluded in the exhibit. The "Reliar wrought steel sectional boiler is show well as the "Savile Combination" bo the "Beacon" domestic boiler, and "White Rose" cast-iron sectional bo the "Duplex," and some others.

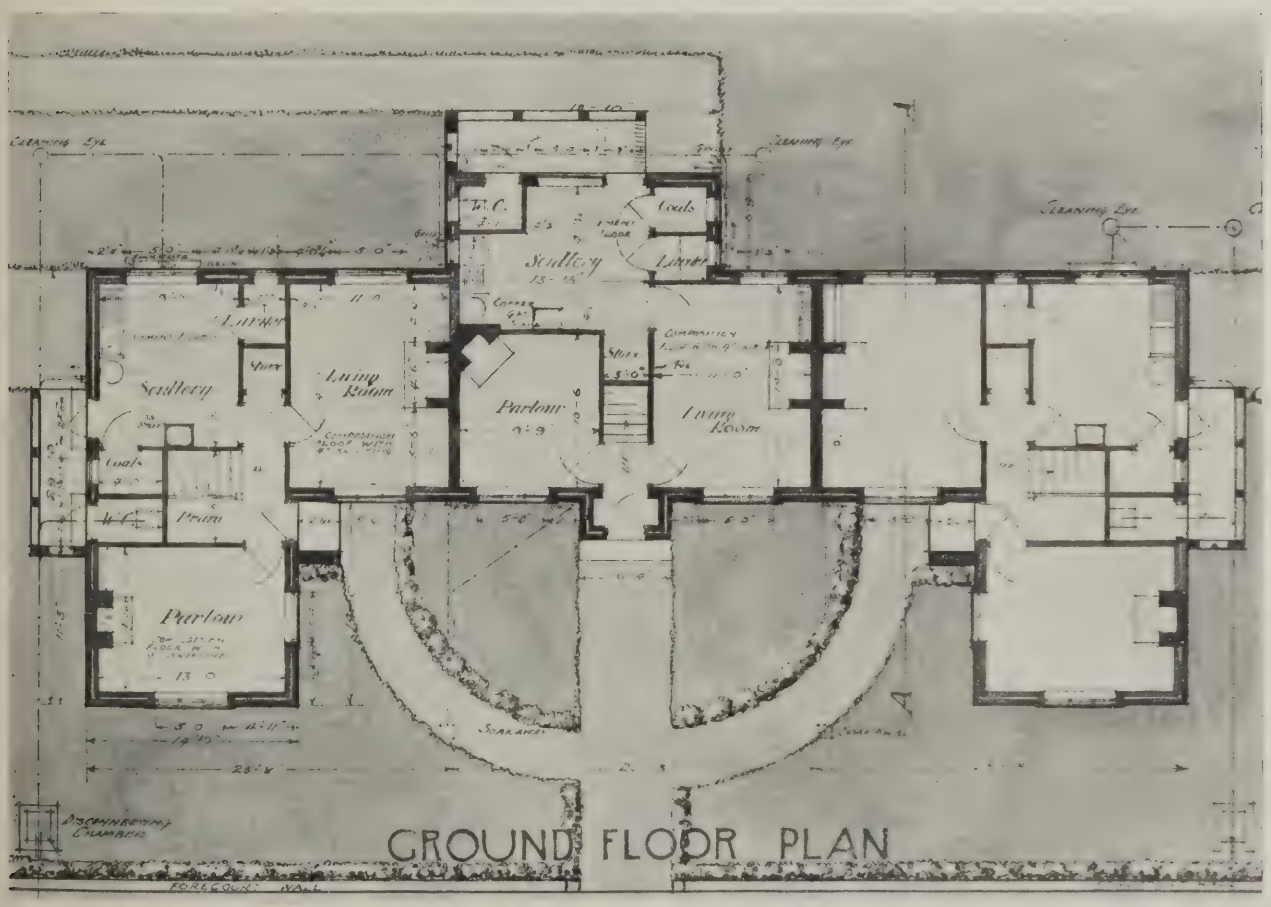
Robert Jenkins and Co., Ltd., Ro ham (Row L, Stand 212), show "Eco" combined hot-water boiler an stove, a combination of either a gas o electrically fitted cooker and an inde dent boiler, designed to supply hot w day and night, and to provide at all t an oven preheated to a moderate tem ture from the same fire.

The Leeds Fireclay Company, Ltd., Strand, London, W.C.2 (Row G, S 123), exhibit faience for interior an terior decoration, fireplaces for all cl of domestic and business buildings, g bricks and tiles, porcelain baths,

BULWARKS VILLAGE HOUSING SCHEME, CHEPSTOW: A TYPICAL COTTAGE.

Modern Domestic Architecture. 4.—Cottages at Bulwarks Village, Chepstow

H. E. Farmer, F.R.I.B.A., Architect



The difficulty of obtaining bricks led to the adoption of concrete blocks of "Winget" make, the concrete being mixed in a semi-dry state, the exterior surface maintaining the gravel and sand finish. A stone texture of face is obtained when the aggregate is crushed stone and red sand.

The layout of Bulwark's Village is given on pages 444 *and* 445.

›es, farm fittings, asphalte, and jointless ›ring composition.

The London Warming and Ventilating ., Ltd., 20, Newman Street, Oxford ·eet, W.1 (Row L, Stand 211), show action their special cooking apparatus, J a patent boiler grate for heating a ole house.

The Richmond Gas Meter Co., Ltd., of ırrington and London, show at Stand . 137a, five sizes of the "Bungalow" ›ker, the "Ironclad" circulator set, Richmond" copper geysers, a small k boiler (the "Lyn"), "Richmond" ;-heated portable wash boilers, a selec-n of Richmond's "Period" silent gas-›s, and other examples of domestic gas-ıted equipment.

›pensers, Ltd., 53, South Molton eet, London, W.1 (Row B, Stand 6), ex-›it petrol gas generating apparatus, ›king and heating apparatus, selection ornamental fittings, etc.

The Well Fire and Foundry Co., Ltd., 15, Berners Street, London, W. (Row L, Stand 209), have a pavilion of classic design, in which selected mantelpiece suites provide beautiful settings for the patent well fire.

John Wright and Co., Essex Works, Aston, Birmingham (Row H, Stand 137b), show gas ranges, cookers, circulators, and boilers.

Iron and Steel

The Art Metal Construction Co., Ltd., 5-11, Holborn, London, E.C., display steel furniture, including steel desks, shelving, letter files, doors, etc., showing how it is possible to make a building fire-resisting (Row G, Stand 126).

Building Products, Ltd., Columbia House, 44-46, King's Road, Sloane Square, S.W.3 (Row E, Stand 77a), are showing their "Regifix" bolt hanger sockets and slotted inserts. This exhibit consists of samples of the various standard fittings, both loose and mounted, together with some reinforced concrete beams, showing the fittings embodied and their application. A "Benquic" bar bender machine will be exhibited erected on a bending bench, and demonstrations will be given of the use of the machine in bending reinforcement rods at various angles as required in practice. "Bareau," the new cement waterproofing powder; "Prufit," the cement waterproofing paste; "ferrolithic," the new metallic hardener and oil proofer; and "B.P. Concrete form Cream," a preparation for applying to the moulds in concrete work to ensure easy withdrawal and a nice finish to the concrete.

The Crittall Manufacturing Co., Ltd., 246, High Holborn, London, W.C.1, show a fine array of standardised metal-framed windows for cottages, offices and factories (Row G, Stand 136).

The Expanded Metal Company, Ltd., York Mansion, York Street, Westminster, London, S.W.1 (Stand 134, Row G), show photographs of various works carried out on the company's systems, and samples of various products, amongst them being: (1) Diamond mesh expanded steel sheet reinforcement for concrete. (2) Expanded metal lathings, both for interior and exterior plaster work. (3) "Exmet" reinforcement for brickwork, concrete blockwork, partition slabs, asphalt, etc. (4) Twisted and set steel wall-ties for cavity walls. (5) Sections of reinforced concrete flooring, stairs, solid and hollow partitions, and reinforced brickwork.

Fawcett Construction Co., Ltd., 47, Victoria Street, Westminster, S.W.1 (Row J, Stand 164), demonstrate the construction of their Mon'lithcrete steel joists. They show also their Edwardian downdraught-preventing chimney-pot.

Hayter, Ltd., 82, Victoria Street, Westminster, S.W.1 (Row B, Stand 22), show the Hayter patent cam lever, which introduces a universal joint for all parts of any construction that has to be accessible readily, or immediately detachable without tools.

The Improved Twisted Steel Bar Co., (1910), Ltd., 28, Victoria Street, S.W.1 (Gallery, Row B, Stand 4), show their Trisec spiral bond bars for reinforced concrete.

Nettlefold and Sons, Ltd., 54, High Holborn, W.C.1 (Row F, Stand 98), show door checks and springs, fanlight openers, locks, and general ironmongery, etc.

Joinery

Battiscombe and Harris, Ltd., architectural decorators, 47 and 49, New Cavendish Street, London, W.1 (Row D, Stand 63) are showing specimens of their work—chimney-pieces, mirror frames, column capitals, etc.—in fibrous plaster, carved wood, and carton-pierre.

Samuel Elliott and Sons (Reading), Ltd., Reading (Row J, Stand 174), show interesting specimens of Period mouldings, panel work, doors, floors, church work, etc.

R. Gay and Co., Ltd., Walter House, Bedford Street, London, W.C.2 (Row G, Stand 125). The stand consists of an automatic panel display, exhibit of models, etc.

Rippers, Ltd., Castle Hedingham, Essex (Row F, Stand 117), show standard doors and windows, plain and enriched mantels and mouldings, special dressers and revolving cupboards, and other items of joinery, as well as samples of kiln-dried English oak and other timber.

THE EXHIBITION POSTER. DESIGNED BY LAWSON WOOD.

Messrs. Venesta, Ltd. (Stand 86a, Row E), have a display of their plywood panels, as applied to interiors, as well as Venesta "Period" panels and parquet flooring.

Lifts

Marryat and Scott, Ltd., 28, Hatton Garden, E.C.1 (Row G, Stand 135), show a complete electric service lift adaptable for hotel, restaurant, or private house; a passenger lift car, and a range of standard controlling equipment.

Messrs. Waygood-Otis, Ltd., of Falmouth Road, Great Dover Street, London, S.E.1 (Row F, Stand 106), who have installed one of their electric passenger lifts to convey visitors free of charge to and from the gallery, also show the Waygood-Otis electroil lift, as well as models of Waygood-Otis hand lifts operated by endless rope and hand rope respectively. A model of the Waygood-Otis automatic electric passenger lift, and various smaller items, such as the rope grip, W.I. top hung gate, sample automatic locks, car switch pushes, and bell indicator.

Paints, Oils, and Varnishes

Aspinall's Enamel, Ltd., New Cross, London, S.E.14 (Row D, Stand 55), have erected a fibrous plaster decorated pavilion to show their different materials and colour schemes. It is constructed of eight columns with caps, and has an enriched cornice. The centre portion is domed. It contains a private office, lobbies, and screen, showing the various enamels, paints, and distempers manufactured by the firm.

Lewis Berger and Sons, Ltd., Homerton, London, E.9 (Row F, Stand 105), show four specimen rooms in miniature, decorated in accordance with colour schemes prepared by Berger Decorative Service, with ceilings, and walls in Matone flat oil paint, woodwork in enamelac white enamel and scrumble graining colour under Berger varnish. There is a Futurist drawing-room scheme—in keeping with a distinctly modern tendency which has to be taken into account by the up-to-date decorator—a Jacobean hall, a charming dining-room, and a real children's nursery. All the decorative schemes embody applied stencils from the Berger range of registered stencil designs. Apart from the four specimen rooms there is a general exhibit showing how the firm's paints and varnishes are used for finishing omnibuses, motor cars, etc.

Walter Carson and Sons, Battersea, London, S.W.11, show specimens of what can be done with their special paints, enamels, and distempers, of which there is a long list. (Row K, Stand 192.)

Cuirass Products, Ltd., 39, Victoria Street, Westminster, S.W.1, have supplied to several stands, their own, No. 22, Row B, of course, included, black enamel-like rust paints, wood preservative, and damp-course.

Herbert Fender and Co., 329, High Holborn, W.C.1 (Row J, Stand 162), show specimens and the applications of their Recelt and Velasto preparations for coating receptacles for oils and acids.

Hadfields (Merton), Ltd., 63, Regent Street, London, W.1 (Row E. Stand 81), include in their exhibits "Heolin" gloss and flat enamels in white and colours, and paints and varnishes.

Robert Kearsley and Co., Ltd., 346, Strand, W.C. (Row H, Stand 151), have a pavilion representing a Greek temple, in which the woodwork throughout has been finished with the firm's enamels, paints and varnishes.

Paripan, Ltd., Sherwood House, Piccadilly Circus, London, W. (Row H, Stand 143), have a stand entirely decorated with Paripan enamel, glossy and flat, and they show specimens of their special filler, Parax paint, and all classes of fine varnishes.

Thos. Parsons and Sons, 315 and 317, Oxford Street, London, W.1 (Row G, Stand 118), show "H.M.S. Endelline" demonstrating the practical application of their enamels, paints, and varnishes; also panels showing various paints, enamels, and varnishes suitable for the building and allied trades. Parsons' Colourmeter is also shown.

C. A. Peters, Ltd., Derby (Row D, Stand 67), show a small wooden pavilion which has been treated with their Peterlineum wood preservative, demonstrating the appearance this material gives to all woodwork.

Pinchin, Johnson, and Co., Ltd., of General Buildings, Aldwych, London, W.C.2 (Row G, Stand 127), exhibit Minerva Paint, Satinette Enamel, and Hygeia flat finishes, as well as Deydol distemper, while some panelling shows Veritone scumble stains. There are also separate exhibits for iron paints, preservatives, lacquers, and stains.

Ronuk, Ltd., 16, South Molton Street, London, W.1 (Row F, Stand 100), have an exhibit designed to illustrate in a practical manner the results obtained by the company's improved methods of polishing flooring and woodwork of every description.

Arthur Sanderson and Sons, Ltd., 51-55, Berners Street, London, W.1 (Row F, Stand 99), show modern artistic wallpapers and cretonnes, paints and brushes, and all materials and accessories for house decoration, including leathers in a variety of shades; also samples of brushes to meet the decorator's every need, and Sanderson's aluminium paint will be a speciality.

Roofing Materials

D. Anderson and Son, Ltd., Roach Road, Old Ford, London, E. (Row G, Stand 124), exhibit roofing, lining felts, damp courses, bitumen sheeting, and wood fencing treated with "Sideroleum" wood preservative.

British Fibrocement Works, Ltd., Erith, Kent, and at London, Manchester, Birmingham, Bristol, and Cardiff (Row E, Stand 85), have erected a stand which has been especially designed to illustrate the various Fibrent manufactures. The south side of the roof is covered with Fibrent corrugated sheeting. The company were the first to manufacture this material in England and its perfection is the result of experience. The north side is covered with fibrent red slating. These slates are also made in grey, blue-black, and purple. The external treatment of the walls and ceilings shows the use alternatively of fibrent flat sheeting plain or rough-cast, scalloped sheeting, etc., or corrugated. The interior shows the use of flat sheeting and the several finishing methods that may be adopted. Fibrent flat sheets ½ in. thick are used on the floor fixed direct to joists and further illustrate the many uses of Fibrent products in modern construction.

British Roofing Co., 150, Southampton Row, London, W.C.1 (Row B, Stand 9a), exhibit asbestos slates, wall and ceiling sheets, etc.

F. McNeill and Co., Ltd., Spencer House, 4, South Place, London, E.C.2 (Row J, Stand 168), show rolls of all kir of felts for exterior roofing, underslati lining and sound-deadening, etc., as us during the war for aircraft buildings, h pitals, inspection bonds, factories, h ments, etc. Models show the applicati of the "Combinite" system of roofing, applied to flat or sloping roofs, and o showing the indestructibility of "Sl bestos."

National Roofings, Ltd., 150, Southan ton Row, London, W.C.1 (Row B, Stand amongst numerous specialities have bi men roofings, damp-courses, build felts, etc.

The North Wales Slates Quarries, M land Bank Chambers, Bangor Street, C narvon (Row F, Stand 92), display spe mens of slates from their numerous qu ries in Carnarvonshire and Merione shire.

W. Pattison (or Successors) Asbes Cement Products, Widnes, Lancs (Row Stand 31), exhibit corrugated roof sheets, flat building and panelling she asbestos cement slates.

The Ruberoid Co., Ltd. 81-3, Knig rider Street, Queen Victoria Street, L don, E.C. (Row G, Stand 129), sh samples of Ruberoid roofing for f pitched, or curved boarded or conc roofs; damp-course, which is purely b minous, yet unaffected by pressure or te perature; flooring, for the covering wood and concrete floors of laborator accumulator rooms, office buildings, wo shops, etc., where an acid-proof, wa proof, and damp-proof flooring of dura character is required; Ruberoid sark felt, Pluvex roofing felt, P. and B. insu ing papers, and P. and B. preserva paints.

Vulcanite, Ltd., 118, Cannon Str E.C.4 (Row E, Stand 89), show roof and damp course specialities.

Sanitary Fittings

Cakebread, Robey and Co., Ltd., Car Works, High Road, Wood Green (Row Stand 47, and Row K, Stands 195 196), show a selection of their drain tube clearing and cleaning machines, cluding many of their most recent provements and manufactures.

Doulton and Co., Ltd., Lamb London, S.E.1 (Row H, Stand 148), s a representative selection of high-c sanitary fittings, including lavatories sinks.

William E. Farrer. Ltd., Heath Lane, Birmingham (Gallery, Row Stand 5), show several types of sew disposal apparatus.

The Farringdon Works and H. Pont and Sons, Ltd., 43-4, Shoe Lane, E. (Row E, Stand 80), show enamelled baths, fireclay and marble lavatories, e

Walls and Ceilings

The Anaglypta, Linerusta, Lignon and Cameoid branches of the Wall P Manufactures, Ltd., 1, Newman St London, W.1 (Row E, Stand 74), s applied relief ornament for the decora of walls and ceilings, also Liner wainscot oak panelling, and glazed tile corations.

The Beaver Board Company, Ltd. Southampton Row, London, W.C.1 (R E, Stand 87), show a wood fibre board to take the place of lath and pla wall paper, and other wall finishings.

British Everite and Asbestilite W Ltd., 29, Peter Street, Manchester (E, Stand 73), show a permanent and resisting cottage residence compl covered externally and internally "Everite" and "Asbestilite" materia

British Uralite Company (1908), Ltd., 8, Old Jewry, London, E.C.2 (Row E, Stand 11), show a wood framed building covered externally with asbestos plain and corrugated sheets, and roofed with Asbestone tiles, and lined with fireproof Uralite.

Endeca Metal Decoration Co., Ltd., 7, Queen Victoria Street, E.C. (Row H, Stand 143a), show specimens of their wall and ceiling tiles on zinc for various services.

Messrs. MacAndrews and Forbes, Ltd., Broad Street Place, London, E.C.2 (Row D, Stand 66), are showing the effects of their well-known Fiberlic wallboard. Fiberlic can be painted, stained, enamelled, or distempered — in fact, any treatment that may be applied to wood may be equally applied to Fiberlic, which has a high resistance to fire; it can only be made to burn with difficulty. It is a good insulator, enabling a room to retain its heat in winter and keep cool during the hot months.

Moler Fireproof Brick and Partition Co., Ltd., 128, New Bond Street, London, W.1 (Row C, Stand 36), exhibit all kinds of fireproof bricks, partitions, slabs, etc., for interior work; demonstrations of the fire- and sound-proof qualities of the materials will be held.

G. R. Speaker and Co., 29, Mincing Lane, E.C.3 (Row G, Stand 132), show their new patent "Trellit" construction in various stages of completion, a light type of construction which admits of rapid building without specially skilled labour.

The Sussex Bricks and Estates Co., Ltd., 52, North Street, Horsham, have erected (Row "J," Stand No. 179), a brick pavilion, designed by Mr. W. H. Hope, having as its object the weight-carrying, perfect alignment, correctness to size, form, and shape of their Southwater engineering bricks.

Sutcliffe, Speakman, and Co., Ltd., Leigh, Lancs (Row H, Stand 156), show their press for making lime-sand and other bricks, with samples of its work, and of that done by the pottery moulding machine, which is also on view.

R. G. Ward and Co., Ltd., 5, Laurence Pountney Hill, Cannon Street, London, E.C. (Row J, Stand 166), show samples of their Thistle plaster board, an improved lathing material.

Willesden Paper and Canvas Works, Ltd., Willesden Junction, London, N.W.10 (Row F, Stand 97), show paper underlining for slates and tiles, and models of tents in Willesden canvas.

Waterproofing Materials

The Adamite Company, of Regent House, Regent Street, London, W. (Gallery, Stand 24a), exhibit samples of "Anti-Hydro," a concrete hardener and waterproofer much used in the States. We understand that a factory for the manufacture of "Anti-Hydro" in this country is contemplated.

George M. Callender and Co., Ltd., 25, Victoria Street, London, S.W.1 (Row D, Stand 64), exhibit their "Callendrite" waterproofing medium for open and covered service and storage reservoirs, filter beds, swimming baths, lakes, ponds, etc., and damp-course for foundations. In the centre of the reservoir is a column of porous bricks, under the top course of which, just above water level, is inserted a piece of "Callendrite" damp-course. "Callendrite" is supplied in rolls 24 ft. long, cut to suit the usual wall widths up to 36 in. "Ledkore" damp-course, which is composed of a core of sheet lead with a special bitumen covering both sides. It contains no coal-tar or pitch. "Protex" for keeping walls dry; "Bitusol" paint for iron and steel work of all descriptions; "Veribest" ready roofing; "Rooferite" felt; insulating piper; "Bitubond" building composition; and "Plastaleke" asbestic-bitumen cement, for the rapid and easy repair of leaky roofs are also shown.

Kerner-Greenwood and Co., Ltd., of King's Lynn (Row C, Stand 45), exhibit their well-known cement waterproofer "Pudlo." The exhibit consists chiefly of apparatus and models which demonstrate the practical application of "Pudlo." There are also shown "Pudloed" concrete tanks, dampcourses, etc., and details of the application of "Pudloed" cement to the cure of flooded cellars, damp walls, polluted wells, etc.

Wood and Woodworking

The Hollis Wood Trimmer Company, Imperial Works, Jockey Road, Wylde Green, Birmingham (Row L, Stand 204), show the various wood-working machines in which they specialise—trimmers, saw-tables, and Kingsway saw benches.

Wm. Oliver and Sons, Ltd., 120, Bunhill Row, London, E.C.1 (Row A, Stands 4 and 5), show a selection of hardwoods with English oak and walnut as special features.

The Young Firm, Ltd., 1, 3, and 5, Virginia Road, Bethnal Green, London, E.2 (Row G, Stand 122), show American hardwoods of every description.

Miscellaneous

The Associated Portland Cement Manufacturers, Ltd., the British Portland Cement Manufactures, Ltd., Messrs. Martin Earle and Co., Ltd., the Wouldham Cement Co., Ltd. (Row F, Stand 103). exhibit samples of Portland cement, cement at various stages of its manufacture, etc.

E. C. Burroughs, Ltd., 59, Gresham Street, London, E.C.2 (Bay 25), have a rather miscellaneous exhibit, comprising a patent pivotal window, demonstration of Hardfast water paint, exhibition of power motors, and the Oriole incandescent burner.

The Brilliant Sign Co., Ltd., 38, Gray's Inn Road, London (Row H, Stand 146), have on view a varied selection of their letters and signs, of various designs and materials, and for many different purposes.

Drew, Clark and Co., Leyton, E.10 (Row K., Stand 188), show samples of their patent ladders, staircase steps, etc.

Ferodo, Ltd., Chapel-en-le-Frith, and 222, Tottenham Court Road, W.1 (Row J, Stand 158), show their patent stair treads, made in various types and patterns.

B. J. Hall and Co., Ltd., Chalfont House, Great Peter Street, Westminster, S.W.1 (Bay 13), show, in a large number of examples representing every type of appliance, full equipment for the drawing office.

Pulham and Son, 71, Newman Street, Oxford Street, London, W.1 (Row C, Stand 44), show a few garden ornaments in "Pulmanite" stone.

The Rawlplug Co., Ltd., Lenthall Place, Gloucester Road, South Kensington, London, S.W.7 (Row D, Stand 53), show a patent fibre plug which obviates the difficulties previously encountered in securing a firm fixture into any material, and the exhibit includes examples in which the plug can be used to advantage in different materials.

Sturtevant Engineering Company, Ltd., 147, Queen Victoria Street, London, E.C.4 (Row E, Stand 83a), have exhibits of their turbine vacuum cleaning plants for hotels, etc.

Messrs. John Tann, Ltd., 117, Newgate Street, London, E.C.1, are exhibiting (Row C, Stand 42) strong-room doors, equipped with anti-explosive and anti-blowpipe devices. This firm also shows plate closet and party wall doors, fire-resisting doors for book-rooms, strong-room grilles, ventilators, shelving, steel fittings, fire and burglar-resisting safes of various kinds, cash and deed boxes, locks, etc.

Technical Journals, Ltd., 27-29, Tothill Street, Westminster, London, S.W.1 (Row E, Stand 82), exhibit their various architectural and fine art publications. All our publications may be inspected here, and all volumes purchased during the Exhibition will be sent post free.

The Tella Camera Company, of 1, Southampton Row, London, W.C.1 (Row C, Stand 38), are the official photographers to the Exhibition.

W. H. Willcox and Co., Ltd., 32 to 38, Southwark Street, London, S.E.1 (Bay 24), show various types of pumps, rotary and plunger, and accessories, lubricators, injectors, beltings, etc.

John and Edwin Wright, Ltd., of Salisbury House, London Wall, E.C.2 (Row L, Stand 214), have a comprehensive exhibit of wire ropes and hemp ropes for engineering, shipping, agricultural, and mining purposes.

Exhibition Programme

The invitations issued by the promoters of the forthcoming Building Trades Exhibition to the opening ceremony at Olympia by Dr. Addison, M.P., on the 10th inst., will include representatives of the Royal Institute of British Architects, the Society of Architects, the Architectural Association, the Surveyors' Institution, the National Federation of Building Trades Employers, the Institute of Builders, and the Concrete Institute.

We are informed by the secretary of the Architectural Association that Mr. H. Greville Montgomery has invited all members of the association to visit the exhibition on the 10th inst.

The Society of Architects has, with characteristic enterprise, arranged a series of conferences and other meetings, particulars of which are as follows: Saturday, April 10.—Opening day. The Architects' Club at the Princes Rooms, open to all architects and their friends. Monday, April 12.—Architects' Club open. Tuesday, April 13.—Conference in the small hall, over the main entrance, 5.30 p.m. Architects' Club open. Wednesday, April 14.—Architects' Club open. Sir Tudor Walters, M.P., will speak on "Subsidies to Private Builders." Thursday, April 15.—Luncheon to members of the Council by invitation of the president. Council meeting, ordinary meeting, and an extraordinary general meeting to confirm special resolutions to alter Articles of Association. Public meeting at 6 p.m.

Key to Trade Names of Exhibits

This select list of Trade Names will be found exceedingly useful in tracing the specialities (which are here given in alphabetic order) to their vendors, whose names and stand numbers are appended.

A

Acme Tile: Colthurst Symons and Co., Ltd., J 177.

Alligator Asbestos Slates, Wall and Ceiling Sheets: British Roofing Company, B 9a.

Anchor Block Making Machine: Henry Wilde, E 78.

Anti-Cyclone Revolving Door: Samuel Elliott and Sons (Reading), Ltd., J 174.

Anti-Hydro Waterproofing Specialities: The Adamite Company, Ltd., Bay 24a.

Arkalac Enamel: Robert Kearsley and Co., Ltd., H 151.

Asbestone Plain and Corrugated Sheets: British Uralite Company (1908), Ltd., E 91.

Asbestilite Asbestos-Cement: British Everite and Asbestilite Works, Ltd., E 73.

Aurora Distemper: The Torbay and Dart Paint Company, Ltd., G 121.

B

Bardsley Door Check and Spring: Nettlefold and Sons, Ltd., F 98.

Beacon Boilers: Hartley and Sugden, Ltd., C 33.

Beaver Board: The Beaver Board Company, Ltd., E 87.

Belfast Lattice Girder Roof: D. Anderson and Son, Ltd., G 124.

Bewty Expanding Barless Fire-Front: The Interoven Stove Company, Ltd., K 197.

Bitmarin Bituminous Specialities: The Limmer and Trinidad Lake Asphalte Company, Ltd., Bay 16.

Bitubond Building Composition: G. M. Callender and Co., Ltd., D 64.

Bitusol Paint: G. M. Callender and Co., Ltd., D 64.

Bricktor Reinforcement for Brickwork: Johnson's Reinforced Concrete Engineering Company, Ltd., H 142.

Bridgewater Pattern Spraying Machine: Four Oaks Spraying Machine Company, B 25 and 26.

Bungalow Cooker: The Richmond Gas Stove and Meter Company, Ltd., H 137a.

C

C.D.L. Machine for Building Concrete Walls: Concrete Dwellings, Ltd., B 10.

Callendrite Sheeting and Dampcourse: G. M. Callender and Co., Ltd., D 64.

Caloric Pipeless Furnace: The Monitor Stove Company, K 190.

Carrara Ware: Doulton and Co., Ltd., H 148.

Cement Gun: Ingersoll-Rand Company, B 16.

Cesalith Building Block: The Chemical and Technical Research Syndicate, Ltd., F 116a.

Clarmo Jointless Flooring Composition: The Leeds Fireclay Company, Ltd., G 123.

Combyn Coal and Gas Fire: McDowall Steven and Co., Ltd., B 13.

Cosmos Metallic Filament Lamps: The Metropolitan-Vickers Electrical Company, Ltd., D 71 and 72.

Coverine White Undercoating: Walter Carson and Sons, K 192.

Cristol-Glass: J. A. King and Co., F 96.

Cottage Combined Boiler Stove: McDowall Steven and Co., Ltd., B 13.

Crocodile Dampcourse: National Roofings, Ltd., B 9.

Croid Liquid Glue: The Improved Liquid Glues Company, Ltd., D 58.

Cuteline Preservative Compound: Bristowe and Co., Ltd., Bay 12.

D

Darby's Patent Tip-Up Bath: The Patent Tip-Up Bath Company, B 24a.

Daydawn Taps, Ball-valves, and Flushing Tanks: J. Jackson, Ltd., K 201.

Devon Fires: Candy and Co., Ltd., G 133.

Devtol Distemper: Pinchin, Johnson and Co., Ltd., G 127.

Domus Boiler: Hartley and Sugden, Ltd., C 33.

Doric Systems of Construction: Modern Building Company, J 173.

Dreadnought Cabinets: Dreadnought Fireproof Doors, Ltd., A 3.

Dri-crete Blockmaking Machine: Stothert and Pitt, Ltd., C 41.

Duplex Boiler: Hartley and Sugden, Ltd., C 33.

Durateg Sanded Roofing: Graves and Co., Ltd., E 83.

Duroid Smooth-faced Roofing: Graves and Co., Ltd., E 83.

E

Eagle Gas Range: John Wright and Co., H 137b.

Eco Combination Boiler and Cooker: R. Jenkins and Co., Ltd., L 212.

Edwardian Chimney Pot: Fawcett Construction Company, Ltd., J 164.

Emdeca Metal Tiles: Emdeca Metal Decoration Company, Ltd., H 143a.

Emero Liquid Glue: The Improved Liquid Glues Company, Ltd., D 58.

Empire Firedoors: Dreadnought Fireproof Doors, Ltd., A 3.

Enamelac White Enamel: Lewis Berger and Sons, Ltd., F 105.

Endelline Gloss Enamel: Thos. Parsons and Sons, G 118.

Eternit Sheets: G. R. Speaker and Co., G 132.

Eureka Hand Vibrator: Henry Wilde, E 78.

Everite Asbestos-Cement: British Everite and Asbestilite Works, Ltd., E 73.

Exe Patent Hoist: Builders' and Contractors' Plant, Ltd., Bay 21.

Exmet Brickwork Reinforcement: The Expanded Metal Company, Ltd., G 134.

F

Farmer de Luxe Spraying Machine: Four Oaks Spraying Machine Company, B 25 and 26.

Ferret Lockfast Patent Joint: Cakebread, Robey, and Co., Ltd., C 47.

Ferro Glass: J. A. King and Co., F 96.

Ferrolithic Cement Concrete Surface Hardener: Building Products, Ltd., E 77a

Ferodo Patent Stair Treads: Ferodo, Ltd., J 158.

Ferro-Rok Corrugated Sheets: D. Anderson and Son, Ltd., G 124.

Fiberlic Wallboard: Macandrews a Forbes, Ltd., D 66.

Filocol Distemper: The Gelatino White Company, Ltd., C 34.

Fibrent Asbestos Cement Slates a Flat and Corrugated Sheets: Briti Fibrocement Works, Ltd., E 85.

Flexoid Curtain Rod: The J.M. Curta Rod Company, H 140.

Florence Patent Boiler Grate: T London Warming and Ventilating Co pany, Ltd., L 211.

G

Gelesco Ceiling Distempers: T Gelesco Paint Company, Ltd., B 30.

Glasso Specialities and Paint Remove The Glasso Manufacturing Compan D 70.

Greaseproof Sinks: Staines Kitche Equipment Company, Ltd., E 75.

Gun Rung Builders' Ladders: Drev Clark, and Co., Diamond Ladder Work K 188.

H

Hardfast Water Paint: E. C. Bu roughs, Ltd., Bay 25.

Hayter Patent Cam Lever, Hayte Ltd., B 22.

Heatanbake Boiler: Hartley and Su den, Ltd., C 33.

Heolin Paints, Enamels, Stains, a Varnishes: Hadfields (Merton), Ltd E 81.

Hermetex Waterproof Compoun George Farmiloe and Sons, Ltd., J 180.

Herringbone Lath: Self-Sentering E panded Metal Works, Ltd., E 86.

Hurry Water Heater: Hurry Wat Heater Company, B 24.

Hygeia Flat Finishes: Pinchin, Joh son and Co., Ltd., G 127.

I

Ideal Domestic Water Softener: Tuk and Bell, Ltd., D 60.

Ideal Window: The Zeta Wood Floo ing (1910) Company, Ltd., B 27a.

Insol Glue Cement: The Improve Liquid Glues Company, Ltd., D 58.

Ironclad Circulator: The Richmon Gas Stove and Meter Company, Ltd H 137a.

Ironite Brand Cement and Cemen Waterproofing Preparations: The Ironit Company, Ltd., F 93.

K

Kalor Hot Water Supply Boiler: R Jenkins and Co., Ltd., L 212.

Kapitia Varnish: Robert Kearsley an Co., Ltd., H 151.

Keystona Oil Flat Paint: Heffer Scott, and Co., Ltd., H 138.

King Blocks, Slabs, and Compositio Flooring: J. A. King and Co., F 96.

King Ferro-Concrete Glazing Bar: J. A King and Co., F 96.

Kirk Block Maker: R. H. Kirk an Co., B 11.

Kooksjoie Anthracite Range: Th London Warming and Ventilating Com pany, Ltd., L 211.

L

.attice and Keedon System of Rein-ed Concrete Construction: Johnson's nforced Concrete Engineering Com-y, Ltd., H 142.

.eatherite Roofing Felts: Vulcanite, ., E 89.

.edkore Dampcourse: G. M. Callender l Co., Ltd., D 64.

.ion Patent Range: McDowall, Steven l Co., Ltd., B 13.

.ion Roofing: F. McNeill and Co., Ltd., 58.

.ithocrete Mastic Asphalte: The Lim-r and Trinidad Lake Asphalte Com-ıy, Ltd., Bay 16.

.ithofalt Paving Blocks: The Limmer l Trinidad Lake Asphalte Company, d., Bay 16.

.itholeine Flat White Japan: Walter rson and Sons, K 192.

.yn Boiler: The Richmond Gas Stove l Meter Company, Ltd., H 137a.

M

Marmo Terra Cotta: The Leeds Fire-y Company, Ltd., G 123.

Masticon Repair Compound for Leaky ofs: The Farringdon Works and H. ntifex and Sons, Ltd., E 80.

Matone Flat Oil Paint: Lewis Berger d Sons, Ltd., F 105.

Maurice's Porceline: Walter Carson d Sons, K 192.

Metacon Patent Glazing Bar: Metacon tent Glazing Bar Company, Ltd., J 182.

Mexphalte Bitumen: The Anglo-Mexi-n Petroleum Company, Ltd., Bay 9.

Minerva Paint: Pinchin, Johnson and mpany, Ltd., G 127.

Mon'lithcrete Steel Joists: Fawcett Con-uction Company, Ltd., J 164.

Moonstone Illuminating Glassware: nderwood (Manchester), Ltd., K 198.

Municipal Boiler: Hartley and Sugden, d., C 33.

Muraline Washable Water Paint: alter Carson and Sons, K 192.

N

Nautilus Gas Fire Flue: The Davis Gas ove Company, Ltd., G 137.

New Rex Mortising Machine: Wilson os., B 8.

O

Okin-Vash Paint Cleaner: C. A. Peters, d., D 67.

Orbis Fanlight Opener: Nettlefold and ns, Ltd., F 98.

Oriole Incandescent Burner: E. C. Bur-ughs, Ltd., Bay 25.

Osho Hot Water Supply Boiler: R. Jen-ns and Co., Ltd., L 212.

Owens Patent Tank: The Economic ot Water Supply Company, F 115.

P

Paragon Tiles: Colthurst, Symons and ., Ltd., J 177.

Parax Paint and Paripan Enamel: ıripan, Ltd., H 143.

Perfecta Bath Geysers: The Davis Gas ove Company, Ltd., G 137.

Plastaleke Asbestic-Bitumen Cement: M. Callender and Co., Ltd., D 64.

Peterlineum Wood Preservative: C. A. eters, Ltd., D 67.

Pluvex Roofing Felt: The Ruberoid ompany, Ltd., G 129.

Protex Damp Resister: G. M. Callender and Co., Ltd., D 64.

Prufit Cement Waterproofing Paste: Building Products, Ltd., E 77a.

Pudlo: Kerner, Greenwood and Co., Ltd., C 45.

R

Racephas Stone Roofing: Roberts, Adlard and Co., F 104.

Reliance Lead and Bitumen Dampcourse: Vulcanite, Ltd., E 89.

Reliance Sectional Boiler: Hartley and Sugden, Ltd., C 33.

Rencrete Damp-proof Stains: The Torbay and Dart Paint Company, Ltd., G 121.

Rexilite Roofing: Vulcanite, Ltd., E 89.

Richmond Geysers, Wash Boilers, and Silent Gas Fires: The Richmond Gas Stove and Meter Company, Ltd., H 137a.

Rigifix Bolt Hanger Sockets and Slotted Insets: Building Products, Ltd., E 77a.

Rok Roofing: D. Anderson and Son, Ltd., G 124.

Roll Concrete Mixer: Builders' and Contractors' Plant, Ltd., Bay 21.

Roneo Steel Furniture: The Art Metal Construction Company, Ltd., G 126.

Ronuk Sanitary Polish: Ronuk, Ltd., F 100.

Rooferite Felt: G. M. Callender and Co., Ltd., D 64.

Ruberoid Roofing and Damp-Course: The Ruberoid Company, Ltd., G 129.

Rublino Tiling: The Leyland and Birmingham Rubber Company, D 57.

Ruscora Matt Wall Finish: Fawley and Coyle, Ltd., J 160.

S

Sanador Felt: D. Anderson and Son, Ltd., G 124.

Satinette Enamel: Pinchin Johnson and Co., Ltd., G 127.

Savile Boiler: Hartley and Sugden, Ltd., C 33.

Scaffixer Lashings, Blocks, Chains, Spanners, and Brackets: The Patent Rapid Scaffold Tie Company, Ltd., D 68.

Self-Sentering Metal Reinforcement: Self-Sentering Expanded Metal Works, Ltd., E 86.

Semesco Washable Distempers: The Gelesco Paint Company, B 30.

Sevres Enamel: Essex and Co., Ltd., G 191.

Sideroleum Wood Preservative: W. Anderson and Son, Ltd., G 124.

Siegwart Floor: Siegwart Fireproof Floor Company, Ltd., A 1

Slagbestos Patent Slagwool: F. McNeill and Co., Ltd., J 168.

Smith Hand Mixer: Stothert and Pitt, Ltd., C 41.

Solignum Wood Preservative Stain: Major and Co., Ltd., F 95.

Sovereign Ranges: Smith and Wellstood, Ltd., L 207.

Standard Smoke Testing Machine: Cakebread, Robey and Co., Ltd., C 47.

Stenhouse Range: Carron and Co., K 191.

No. 2 Stoniflex Felt: D. Anderson and Son, Ltd., G 124.

T

Tarmac Concrete Building Blocks: Tarmac, Ltd., Bays 4 and 5.

Tarrixo Tar Compound: The Yorkshire Road Tar Binders, Ltd., Bay 8.

Tarvia: Bristowe and Co., Ltd., Bay 12.

Tectite Sanded Roofing: Graves and Co., E 83.

Thistle Plaster Board: R. G. Ward and Co., Ltd., J 166.

Times Drain Testing Plug: Cakebread, Robey and Co., Ltd., C 47.

Trellit System of Building: G. R. Speaker and Co., G 132.

Trisec Spiral Bond Bars: The Improved Twisted Steel Bar Company (1919), Ltd., B 4.

Triumph Hand Mortising Machine: Wilson Bros., B 8.

Triumph Spraying Machine: Four Oaks Spraying Machine Company, B 25 and 26.

Trussit Corrugated Expanded Metal Steel Sheet: Self-Sentering Expanded Metal Works, Ltd., E 86.

U

Uralite: British Uralite Company (1908), Ltd., E 91.

Utod Patent Door: The North of England School Furnishing Company, Ltd., E 74a.

V

Valor Perfection Oil Cooking Stoves: Anglo-American Oil Company, Ltd., B 3.

Velvarine White Japan: Walter Carson and Sons, K 192.

Venesta Ply Panels and Parquet Flooring: Venesta, Ltd., E 86a.

Veribest Roofing: G. M. Callender and Co. ,Ltd., D 64.

Veritone Scumble Stains: Pinchin, Johnson and Co., Ltd., G 127.

Victor Gas Boilers: Thomas Potterton, D 62.

Victoria Concrete Mixers: Stothert and Pitt, Ltd., C 41.

Vinculum Concrete Building Blocks: Tarmac, Ltd., Bays 4 and 5.

Vulcanite Roofing: Vulcanite, Ltd., E 89.

W

Walpamur Water Paint: Essex and Co., Ltd., G 119.

Waygood-Otis Lifts: Waygood-Otis, Ltd., F 106.

Well Fire: The Well Fire and Foundry Company, Ltd., L 209.

Westminster Wall Papers: Essex and Co., Ltd., G 119.

Whirlpool Paint Mixers: Sidney Smith, B 27, 28, and 29.

C3 White Rose Cast Iron Sectional Boiler: Hartley and Sugden, Ltd., C 33.

Wifesjoie One-Ring Gas Cooker: The London Warming and Ventilating Company, Ltd., L 211.

Willesden Paper Underlining and Canvas: Willesden Paper and Canvas Works, Ltd., F 97.

Willett Air-Gas System: Mann, Egerton and Co., Ltd., B 15.

Winch Portable Concrete Block Making Machine: C. F. Cole, B 32.

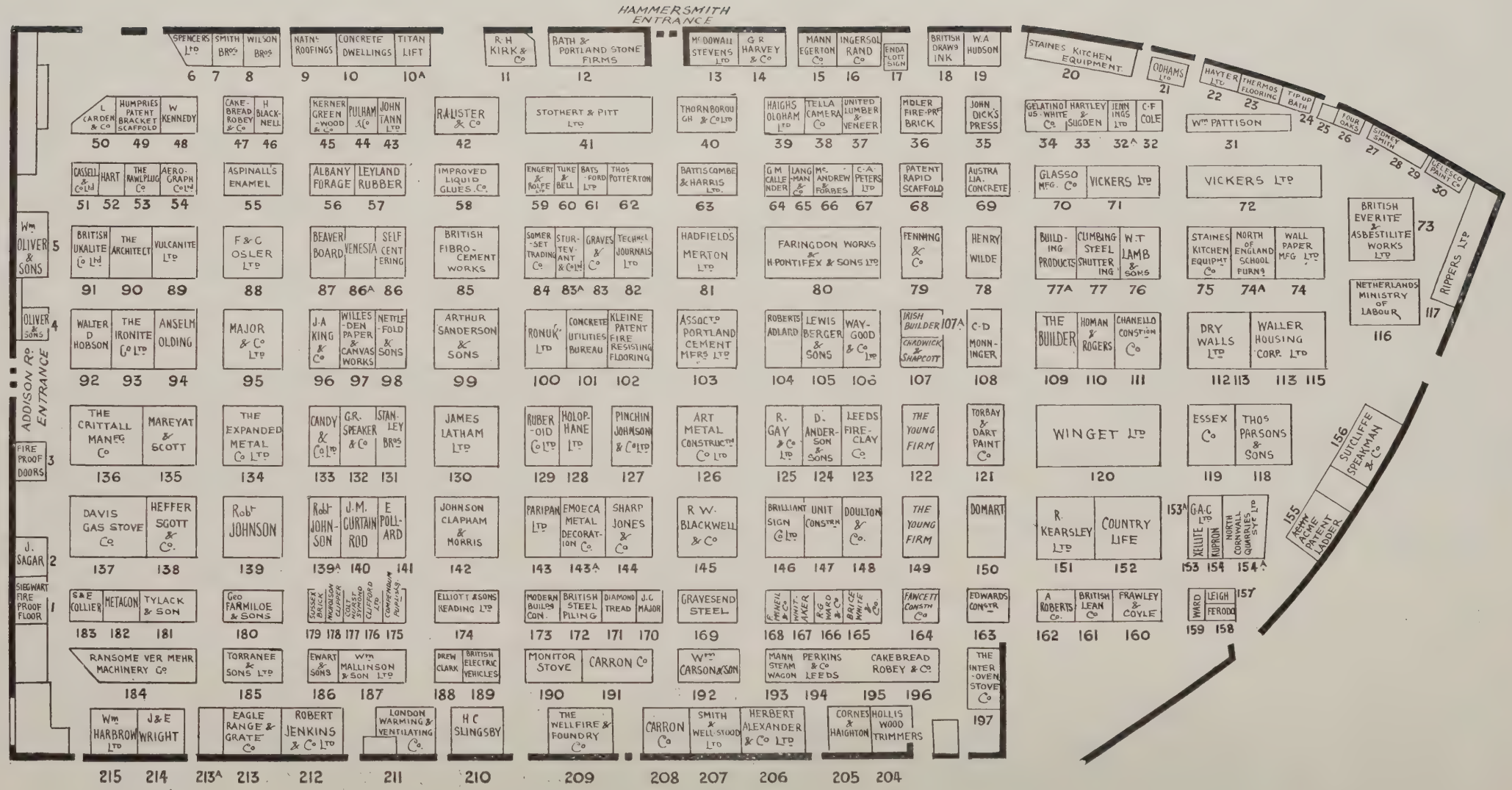
X

Xelstone Artificial Stone: The Xelite Plaster Company, Ltd., H 153.

Z

Zenith Combined Boiler and Storage Tank: Arden, Hill, and Co., H 137c.

Zingessol Washable Water Paint: George Farmiloe and Sons, Ltd., J 180.



BUILDING TRADES EXHIBITION, OLYMPIA. KEY PLAN TO STANDS AND EXHIBITORS

The block from which this plan is printed was courteously supplied by our contemporary the "Builder". For a Key to Trade Names of Exhibits, showing at what stands they are to be found, see page 454.

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR	
Excavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
Labourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Navvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
Timberman, 1s. 9d. per hour.	In underpinning, add 120 per cent.
Scaffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
Watchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
Broken brick or stone, 2 in., 7s. per yd.	Headings, including timbering, add 400 per cent.
Thames ballast 19s. per yd	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Pit Gravel, 20s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
Pit sand, 22s. per yd.	Planking, 5½d. per ft. sup.
Washed sand, 23s. 6d. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Screened ballast or gravel, add 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 3d. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Do. 6 in. thick, 4s. per yd. sup.
Portland cement, 79s. per ton.	Puddling, 30s. per yd. cube.
Do. in small lots, ex London stock, 100s. per ton.	Cement concrete, 4.2.1, 53s. 6d. per yd. cube.
Lias lime, 70s. per ton.	Do. 6.2.1, 50s. 6d. per yd. cube.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in upper floors, add 12½ per cent.
Transport hire per day:	Do. in ferro concrete work, add 20 per cent.
Cart and horse, 26s.	Do. in underpinning, add 50 per cent.
3-ton motor lorry, £6 10s.	Lias lime concrete, 47s. per yd. cube.
Steam lorry, 5-ton, £7.	Breeze concrete, 33s. per yd. cube.
Trailer, 30s.	Do. in lintols, etc., 5s. 3d. per ft. cube.
Steam roller, £4 10s.	
Water cart, 30s.	
DRAINER.	
Labourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
Timberman, 1s. 9d. per hour.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in. 15s., 9-in. 26s. per ft.
Bricklayer, 1s. 11½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. per hour.	
Watchman, 6s. 6d. per shift.	
Stoneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
Portland cement and sand, see Excavator above.	
Lead for caulking, 60s. per cwt.	
Gasket, 1s. 9d. per lb.	
BRICKLAYER.	
Bricklayers, 1s. 11½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
Labourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
Scaffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
London stocks, 86s. per M.	Do. circular on plan, add 12½ per cent. per rod.
M.	Facings, fair, 3d. per ft. sup. extra.
Flettons, 75s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
Staffordshire blue, 220s. per M.	Do. picked stocks, 6d. per ft. sup. extra.
Firebricks, 2½ in., 223s. per M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £25 per M.	Struck pointing, 4d. per ft. sup. extra.
Do. headers, £24 10s. per M.	Tuck pointing, 10½d. per ft. sup. extra.
Colours, extra, 130s. per M.	Weather pointing, 4d. per ft. sup. extra.
Seconds, less, £1 per M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
Cement and sand, see Excavator above.	Do. 1½-in., 5s. 10d. per yd. sup.
Lime, grey stone, 62s. per ton.	Do. 2-in., 7s. 6d. per yd. sup.
Mixed lime mortar 26s. per yd.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
Damp course, in rolls of 4½ in. 4s., 9 in. 7s. 3d., 14 in. 10s. 9d., 18 in. 14s. per roll.	Asphalte, damp course, ½-in., 1s. 4d. per ft. sup.
	Do. vertical, 1s. 8d. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 11s. 6d. per yd.
	Do. skirting, 6-in., 1s. 6d. per yd.
MASON (INCLUDING SLATE).	
Mason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 6d. per ft. cube
Do. fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
Scaffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
Portland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. per ft. sup.
Bath stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. per ft. sup.
Mansfield red, 7s. 6d.	Do. do. circular, 2s. 8d. per ft. sup.
(Usual trade extras for large blocks.)	Circular-circular work, 10s. 3d. per ft. sup.
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run
	Half sawing, 10d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 7d. per ft. sup
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 82s., Countess 89s., Duchess 98s. per square.
Tiler, 1s. 11½d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 110s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 6s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 94s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 87s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 133s. per M.	
Machine tiles, 124s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 15s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel:	Centering for concrete, etc., including horsing and striking, 93s. per sq.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Slate battening, 29s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	1-in. deal gutter board on firring, 108s. per sq.
Boards, 1st £71, 2nd £68. 3rd and U/S. £65 per std.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Do. F.E., 3rd and U/S. £58.	2-in. do. do. 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Norwegian or Swedish:	Do. do. do. 1½in. 3s 3d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	If in oak multiply 6 times.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1¼-in. 16s. 6d. per yd. sup., average.
Teak, 4s. 6d. per ft. sup. of 1 in.	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 83s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 5d. per ft.
Lead, milled sheet, 60s. 6d. per cwt.	Do. ¾-in., 3s. 1d. per ft.
Do. Drawn pipes, 61s. per cwt.	Do. 1-in., 3s. 7d. per ft.
Do. soil pipe, 66s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. scrap, 30s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 3-in., 11s. 9d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 4-in., 16s. 3d. per ft.
Do. fine, 2s. 6d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Red and white lead, 10d. per lb.	Do. 3-in., 2s. 8d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 5d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Do. O.G., 4-in., 2s. 3d. per ft.
Gutter, 4-in. H.R. 4s., 4-in. O.G. 4s. 3d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each.
	Baths only, with all joints, 37s. 6d. each.
	Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Do. double, 9d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 67s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Plaster, 83s. per ton	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 110s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
Do. boiled, 12s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 19s. per gal.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Do. fine, 3s. and upwards per piece.
Double size, 7s. per firkin.	Varnishing paper, 1 coat, 14s. per piece.
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Hard stopping 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Varnish, hard oak, 18s. 6d. per gall.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £55 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £39 per ton.
Brector, 1s. 10d. per hour.	Do. in compounds, £44 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £43 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt.
Cast-iron, heavy	Fixing only corrugated sheeting, including washers and driving screws, 1s. 5d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 5d. per yd sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per ft. sup
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 6d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 2s. 7d.	R.W.P. fixed, 1s. 10d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

Trade and Craft

Change of Address.

Messrs. Cuirass Products, Ltd., manufacturers of anti-rust paint, liquid proofing for damp walls, etc., have removed to 69, Victoria Street, London, S.W.1. 'Phone: Victoria 5419.

"Ubel" Brochure.

The efforts of the United Brassfounders and Engineers, Ltd., of Manchester, familiarly known as "Ubel," to establish one phase of British engineering upon a thoroughly sound, efficient, and up-to-date basis are indicated in "The Record of a Great Enterprise," a brochure just issued by that organisation. An account is given of the amazing development of war activities; and the manner in which the extensive "Ubel" manufacturing plants were consolidated and operated in the common cause is shown by a series of splendid illustrations. Quotations give official testimony to the high standard of work and record of efficiency attained in the manufacture of fuses, shells, and other war necessities, and it is the intention of "Ubel" to maintain or, if possible, to surpass this high standard in the future national work of assisting British trade expansion. The brochure is an excellent production and also contains profusely illustrated and interesting notes relating to the construction and action of shells and fuses and a number of highly coloured humorous drawings by famous artists. The company have a limited number of copies of the brochure available for distribution to bona-fide merchants, engineers, and other users of their specialities.

"Ironite" Flooring and Waterproofing.

Two different kinds of "Ironite" cement in successful use to-day are the subject of an illustrated pamphlet which has been issued by the Ironite Co., Ltd., of 11, Old Queen Street, Westminster. "Ironite" cement for flooring is especially manufactured for mixing dry with cement, and may also be used, in combination with Portland cement in the form of cement slurry or grouting, for waterproofing walls, etc. "Ironite" cement for waterproofing is not intended to be used with Portland cement, and is mixed with water only and applied with a brush. Full particulars are given as to the method of using the materials, for which many advantages are claimed.

Competitions

Bradford-on-Avon.

War memorial. Cost £400. Premium 25 guineas. Apply Mr. J. Compton, Westbury House, Bradford-on-Avon. Closing date, May 8.

Crouch End.

War memorial at Cottage Hospital Park Road. Premiums 30, 20, and 1 guineas. Apply Mr. E. O. Whitehead, 12 Elder Avenue, Crouch End, N.6. Closing date, April 20.

Lockerbie.

War memorial. Cost £2,000, exclusive of roll of honour, architect's fees, and outlays. Particulars from Mr. D M'Jerrow, Town Clerk. Closing date June 30.

Sheffield.

War memorial halls. Assessors, Sir Aston Webb, K.C.V.O., P.R.A., and Mr F. E. P. Edwards, F.R.I.B.A. Premium £250, £150, and £100. Apply Mr. W. E Hart, Town Clerk. Designs by July 31.

Cleethorpes.

Members of the Society of Architects are requested not to take part in the Cleethorpes peace memorial competition until the conditions have been approved by the Council.

The Week's News

(Concluded from page 428)

Selby.

The Riccall R.D.C. have approved plans or sixty-two houses.

Haslingden.

Plans are being obtained for houses to be built on land at Helmshore.

Barnard Castle.

The Housing Committee have decided to purchase a site at Harmire for £750.

Windsor Carpenters' Strike.

Work at Windsor Castle has been delayed by the strike of local carpenters.

St. Anne's War Memorial.

Lord Ashton has given £10,000 towards the proposed cottage hospital which is to be the town's war memorial.

Llandudno.

The U.D.C. have decided to erect twenty concrete houses of the parlour type at a cost of £725 per house.

Scarborough.

It is estimated that £157,000 will be required for housing schemes for the next twelve months.

Durham.

It is estimated that about a quarter of a million will be required for the three housing schemes in the city.

Holloway.

It is proposed to erect on the site and grounds of Cornwallis Road Workhouse 350 flats.

Scarborough War Memorial.

The war memorial will take the form of a marble-lined temple to be erected in the Valley Park at a cost of about £7,500.

Kew Gardens War Memorial.

A memorial tablet, designed by Sir Robert Lorimer, will be erected in Kew Gardens in honour of the members of the staff who fell in the war.

Rawdon.

The Ministry of Health has given permission to borrow £22,000 for the erection of twenty-two houses—the first instalment under the housing scheme.

Westhoughton.

A contract for the erection of 230 houses has been let by the Westhoughton U.D.C. The terms are the net cost of erection plus a fixed lump sum for profit.

Stained Glass Window for Coleraine.

The members of St. Patrick's Church, Coleraine, propose to erect a stained glass window in the church in memory of those who fell in the war.

Fulham.

Sir Oswald Stoll has decided to abandon his plans for the erection of a theatre at Fulham and to extend in its stead the present War Seal Mansions by building a further sixty-four flats.

Radstock.

The Council have resolved to amend their housing proposals to permit of 116 houses being ultimately erected, but decided on the erection of forty as a first instalment.

Stained Glass Window, Golders Green.

A stained glass window, signifying Courage, Love, and Victory has been placed in St. Ninian's Presbyterian Church, Golders Green, to the memory of Paymaster C. Grenville Maile, R.N.R., who was killed in action in 1918.

Weston-super-Mare.

The Weston-super-Mare Master Builders' Association have offered to assist the Urban District Council's housing scheme by erecting 100 houses within the next year at an agreed price.

Glasgow.

At Greenhead, Govan, 240 houses are to be built, of which sixty-eight will contain four apartments each and the remainder three apartments each. Two new picture palaces are to be erected in the city.

Denaby Colliery.

The Denaby and Cadeby Collieries Company have decided to erect a number of houses in the neighbourhood of Denaby on land acquired there before the war. The scheme is to be undertaken as a private enterprise.

Yeadon.

The District Council have decided to ask the Ministry of Health to sanction the borrowing of £25,000 for the erection of houses under the local housing scheme. Twenty houses are to be built as a first instalment.

Swansea.

Swansea Housing Committee has decided to erect 200 wooden bungalows. The accommodation provides four bedrooms with a central living room and offices. The committee is also pushing on a proposal to erect steel frame houses.

Bristol.

The City Housing Committee have adopted a revised scheme to erect 1,000 houses this year towards the 5,000 required, at the basic price of £849 each, apart from the cost of land. Some hundreds of Army huts will also be used temporarily.

Scunthorpe.

The Scunthorpe and Frodingham U.D.C. have decided to enter into a contract for £3,990 for 19,957 sq. yards of land with Sir Berkeley Sheffield for a housing scheme in Buckingham Street, Crosby. Seventy-six houses of various types are to be built within twelve months.

St. Ives.

A lay-out plan has been submitted to the Town Council for the erection of 116 houses on part of the site at Ayr approved by the Commissioners. Four classes of houses will be erected over the plot. The cost of the proposed houses is estimated at £93,000 for building only, and another £7,000 for making the roads and sewers.

Beckenham War Memorial.

The committee have selected the site for the erection of the piece of statuary proposed, and well-known sculptors are to be asked to compete. A sum of £4,000 is suggested as the probable cost. The second part of the memorial scheme relates to the extension of the Cottage Hospital, and £27,000 is to be appealed for.

Exeter Cathedral.

Seven large stone figures have been placed in niches above the north porch of Exeter Cathedral. They represent saints of Allied countries—St. George of England, St. Denis of France, St. Joseph of Belgium, St. Valdimar of Russia, St. Ambrose of Italy, St. Cyril of Serbia, and St. Methodius of Rumania.

County Hall Extensions at Preston.

The County Council are applying to the Ministry of Health for a provisional order empowering the Council compulsorily to purchase property adjacent to the County Hall for extensions to the County Offices. Altogether thirty-five houses will be required for the extension, and of these twenty-five have already been acquired.

Bombay.

The Governor of Bombay has announced an ambitious housing programme for the city. Plans will also shortly be published comprising an extension of the Bombay tramway system. A big supply of labour and the assistance of important construction and development companies will be required.—Reuter's Trade Service.

Edward the Confessor's Palace.

Capt. Vaughan-Williams, of Manor Lodge, Old Windsor, has resumed his excavations on the supposed site of Edward the Confessor's Palace in Windsor Great Park. Capt. Vaughan-Williams has found what he thinks is the aisle of the church with an apse. A large number of Roman and Saxon relics have been dug up, as well as implements of the Stone Age.

Seven Years in Building.

No. 15, Stratton Street, Piccadilly, the freehold of which is for sale, was designed by the late Mr. C. J. Harold Cooper, architect, who took seven years to complete the house, so perfectly had every detail to be thought out and worked. The exterior, in Portland stone, with mullioned windows and gun-metal frames, is impressive. The carved oak, mahogany, cedar, and satinwood cost £58,000. Every detail, from the rain-water heads to the hinges on the smallest cupboard, was specially designed and wrought by hand.

Hertford Architectural Society.

Following a good deal of energetic spadework, a meeting has been held at Luton, under the auspices of the Luton Architectural Society, to consider the question of forming an Architectural Society, in affiliation to the R.I.B.A., for the counties of Hertford and Bedford. Mr. Deacon, of Luton, the chairman, read a paper giving an outline of the objects of such a society, together with a letter from the secretary of the R.I.B.A., giving a general approval of the scheme.

After an interesting discussion it was decided that enough support was forthcoming to justify the formation of the society, and Mr. Deacon was elected president, and, with Mr. Jeeves as hon. secretary, undertook the duty of drafting a constitution for circulation among practising architects in the two counties. A further meeting is to be held to consider this, and to take the necessary steps for putting the Society into full working order.

Mr. Deacon, a former student at Liverpool under Professor Simpson, has taken from the first a leading part in the promotion of the society.

Legal

Army Architect's Claim.

Cappon v. The Lord Advocate.

High Court Edinburgh. Before Lord Sands.

In the High Court, Edinburgh, Lord Sands gave judgment in an action raised by Thomas Martin Cappon, F.R.I.B.A., architect and surveyor, Dundee, against the Lord Advocate as representing the War Office, for payment of £60 4s., the amount of the pursuer's account for services rendered to the War Department. Mr. Cappon, who was officer commanding Dundee Recruiting Area in 1915 and 1916, and was in receipt of full-time pay from the War Department, averred that in his civil capacity, and acting through his assistant, he was employed by the War Department, and acted as architect for that Department in carrying out certain work connected with the provision and maintenance of hospitals in Dundee. The pursuer stated he made no charge for any services which he personally rendered, but solely for the services rendered or supervised by his agent. The defender denied that the pursuer was employed by the War Department, and stated that none of the items in the account sued for was authorised by the Department, nor was the advice offered accepted or acted upon, with the exception of the renewal of a steam cooker, for which the sum of three guineas was tendered.

The Judge granted decree for the sum sued for by Mr. Cappon, with expenses. His Lordship stated the pursuer rendered very valuable service throughout the war and did not spare himself in any way, and he was satisfied there was no ground for the suggestion that this was in any way a trumped-up claim, or that the pursuer was now seeking to obtain remuneration for services which were rendered gratuitously to a brother officer. Any difficulty in the matter arose from misunderstanding, not from mala fides or greed. As chief medical officer at this important centre, Colonel Wyville Thomson had no authority to employ an architect. In view of the documents and plans submitted to headquarters, and there considered and discussed, his lordship thought it ought to have been apparent that the work was not the personal work of the pursuer, and was not of the nature of friendly advice such as might be looked for from a brother officer, himself engaged in strenuous and exacting work.

"The House We Want."

Issue No. 73 of "A Thousand and One Uses for Gas" contains an article by Mr. W. J. Swain, architect to Messrs. Rowntree, of York, entitled "The House We Want," in which he gives an interesting description of the model garden village of New Earswick, and explains the satisfactory and economical results obtained through the use of gas. Copies may be obtained post free on application to the publishers at 47, Victoria Street, Westminster, S.W.1.

Coming Events

FRIDAY, APRIL 9.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "The Uses of Concrete," by Mr. T. J. Clark. 6 p.m.

SATURDAY, APRIL 10.

Building Trades Exhibition.—Opening of the Exhibition at Olympia.

FRIDAY, APRIL 16.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Public lecture on "Submission of Plans to Local Authorities," by Mr. E. Fiander Etchells, Hon. A.R.I.B.A, Assoc.M.Inst.C.E., etc. 6 p.m.

MONDAY, APRIL 19.

British School at Rome Scholarships and Henry Jarvis Studentship.—Final examination at R.I.B.A. from April 19 to May 8. Full particulars from Mr. Evelyn Shaw, hon. general secretary, British School at Rome, 54, Victoria Street, S.W.

WEDNESDAY, APRIL 21.

Concrete Institute.—Visit to the International Building Trades Exhibition at Olympia. 3 p.m.

THURSDAY, APRIL 22.

Concrete Institute.—"The Mystery Port, Richborough," by Major Halstead Best, R.E., F.I.S.E. 7.30 p.m.

THURSDAY, MAY 27.

Concrete Institute.—"Ventilation and Anti-purification as Applied to Modern Concrete Buildings," by Mr. E. L. Joseph. 7.30 p.m.

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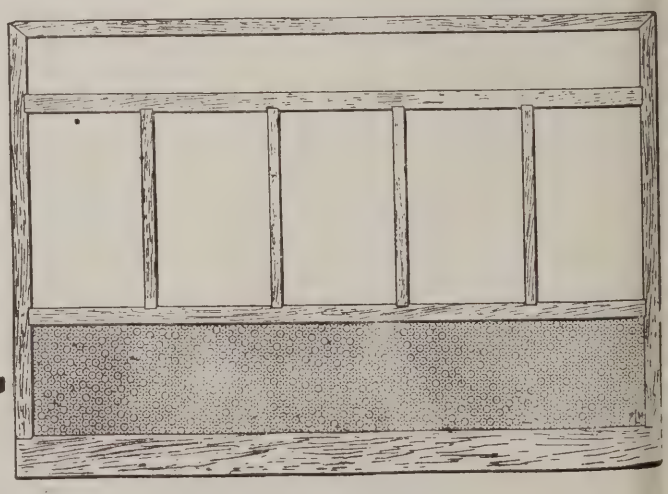

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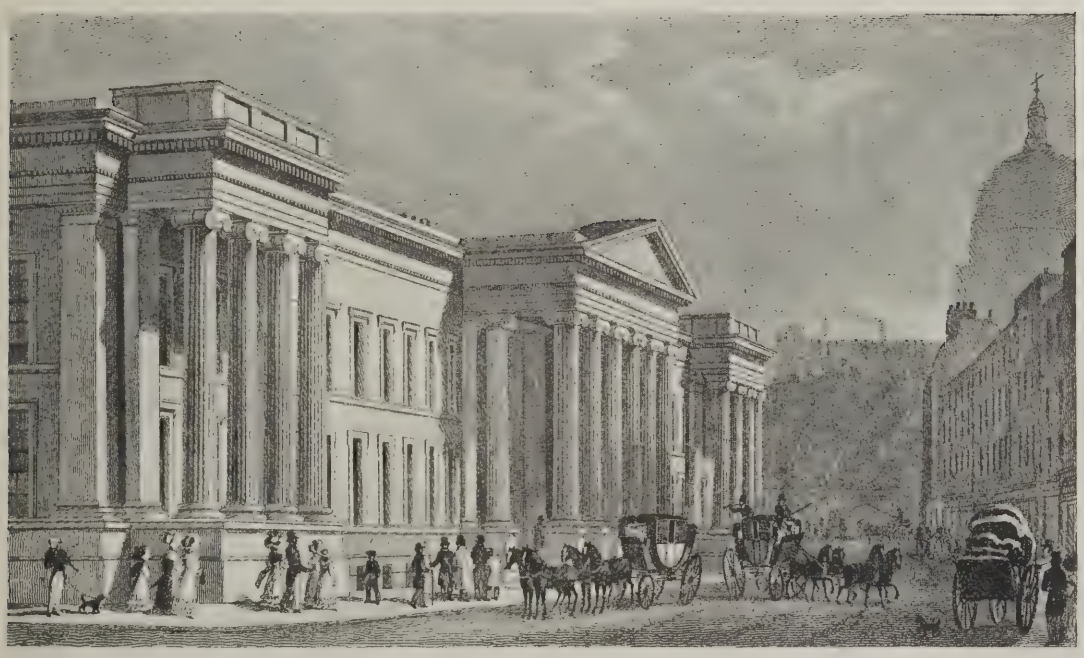
With which is incorporated "The Builders' Journal"



THE OLD G.P.O., ST. MARTIN'S-LE-GRAND.

(From a drawing by T. Hosmer Shepherd, engraved by W. Wallis.)

27-29 Tothill Street, Westminster, S.W.1.

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Architecture of the Italian Renaissance. 11.—Palazzo Pandolfini, Florenc (begun 1520)

Raphael, Architect

Raphael, though principally famed as a painter and a sculptor, was an architect of genius, as his charming little Pandolfini Palace abundantly testifies. This building, though comparatively small in scale, must rank as one of the most finished examples of the mature Italian Renaissance. To the Pandolfini Sir Charles Barry was largely indebted for the general design of his Travellers' Club in Pall Mall.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Vednesday, April 14, 1920 Volume LI. No. 1319

Cheap Houses are Too Dear

THE time has come to protest against the constant efforts now being made to cheapen houses. Not that we object to houses being reasonably low in price. Indeed, we feel rongly that they should never be allowed to become ear. But there is a point at which cheapness ceases to e economy. Too cheap houses will always be too dear.

The whole question depends on what *is* a cheap ouse. Let us put it in this way. Any saving in uality is no saving in cost. It certainly does reduce ie initial outlay, but that is not of necessity a wise bit f business. The cost of a house is so much invested ipital with a limited life. If you build it so flimsily iat it will only be habitable for thirty years, you may ell lose more than you save. In earlier days the nglish put up houses that have lasted centuries. Any verage dwelling of to-day that will stand for as long s one hundred years is a rarity. Yet if we take a long ew and build for posterity as well as for the present e may well find a far finer investment, though the ipital cost would be much more.

The State to-day is urging the municipalities to ipply houses for the people, houses "fit for heroes to ve in." This year's cost is estimated at over 120,000,000. And the Ministry of Health, frightened this vast sum, is now ordering cheaper plans. Yet e cheerfully spent over £400,000,000 on drink last ear—unremunerative expenditure, expenditure that sts the nation far more than the £400,000,000 oured down the people's throats. That is a fact which ads to serious thought. The £400,000,000 is wasted. et the nation which can throw its cash away in this ckless fashion is supposed to grudge even a poor 120,000,000 to build homes fit to live in! We feel at the Ministry is making a mistake. Are they not er-cautious? Will the people refuse to sanction a heme nobly planned and generously framed? We do ot think so.

One little incident at Manchester should give the inistry a new courage. A conference representing out 100,000 workers in the building trade, which rmed a building guild for the north western area of ngland, "protested strongly against the attempt ade by the Ministry of Health to impose the acceptice of a cheaper house upon local authorities."

Too long have the working classes been doomed to ve in houses not fit for man. Now, on the word of the rime Minister, we are to see the dawn of a new era. that new era to be ushered in by a wholesale erection cheap houses? If so, we may save our cash, but we all lose our credit.

Unhappily the building by-laws, instead of being rengthened, are being weakened. We now hear of ght-foot rooms in certain cases of conversion. These ncessions are insidious. They are dangerous. They e unworthy of the Ministry. The country cannot ford any of them. What is needed is a strict enforcement of all the present by-laws—good building at whatver the cost. What may be the pressure brought to ar on the Ministry we are not prepared to say, but we urgently appeal to Dr. Addison to refuse to listen to any suggestions to water down the regulations set up for the protection of the public health. We know that he has a hard and difficult task. We realise that he is enthusiastic in his desire to build a better England. We hope that he knows he has in these endeavours the ardent support of the bulk of the nation. After all, it is a case of cash or credit. The loudly heralded new era will have but a poor start if the cash school wins. No one wants waste or extravagance.

No one will justify unwise spending. But when it comes to so vital a matter as the housing of the people our credit must be placed first. It will pay to have the best. We shall get dividends in the way of an improved standard of health, a finer physique, and, as a result, a stronger and bigger army when, if ever, the Empire is attacked, and a new reign of efficiency and contentment. Surely it is worth while. More than that. We take a grave risk unless we insist that there shall be no casting away of the finest chance we have yet had of making England worthy of its wonderful history.

The crux of the problem, we shall be told, is the "economic rent." Is it? And what is an "economic rent"? If you hope to put up houses which will repay you within one generation, an "economic rent" at present costs becomes impossible, unless you perpetuate the bad old days of the slums. If, on the other hand, for your credit's sake you build houses that will last at least three generations, though they should be habitable for much longer than that, you may get your "economic rent," and possibly a bit more.

"Take the cash and let the credit go," despite all our commercial men may tell us, is bad business. It is worse ethics. The nation that could stand the financial strain of the war can meet the housing need. All we need is a little courage and some common sense. Building well is building wisely. Bad housing is always a grave menace to any nation—and a very costly one, too. So the cheapening process must, in the highest interests of the people, be stopped.

Only a few months ago the nation was willing, and rightly willing, to approve any expenditure, however colossal, in order to win the war. Now, in order to save life, it quibbles over sums which in comparison are utterly paltry. An imperial people should think on nobler lines.

What we must have are the best houses. By all means let us have them as cheaply as possible. But quality must be the first and main consideration. It is worse than useless trying to make an A1 people on a strictly cash basis. It cannot be done. How often has it not happened in history that the "credit first" school has triumphed in the end? All the most glorious survivals of by-gone ages—mostly architecture—were the creation of artists who scorned to count the cost. Shall we make the mistake to-day of unduly counting the cost? If we do we shall leave to posterity a heavier debt than any our housing bill will represent. We cannot afford to be a cheap nation.

CROSSLEY DAVIES.

Notes and Comments

The Building Trades Exhibition, 1920

LAST week we gave a "preliminary survey" of the Building Trades' Exhibition which was opened on April 10 by Dr. Christopher Addison, M.P., Minister of Health. This week we present, in a considerably enlarged issue, extended notices of the exhibits; and next week we shall publish a series of articles, written by well-known specialists, giving critical views of the several departments into which the exhibition is divisible, and noting the progress that has been made in each of them since the last preceding exhibition, which was held in the year 1913. So long a period must have been prolific in inventions, in spite of the war—or rather because of it—since it created many necessities of which previously we were conscious but dimly or not at all. That the house shortage also has greatly stimulated inventive genius is evident at almost every turn—there is hardly any kind of material or any line of goods that has not been more or less affected by the housing movement. On the progress that has been made in the various departments of the great industry of building our band of specialist contributors will give valuable reports, which will show exactly how each department stands, and there will be also a general survey, by a well-known writer, giving his impressions of the exhibition.

Our Stand at the Exhibition

At our stand, Row E, No. 82, copies of all our publications are shown. The list is too long to be reproduced here (complete catalogues may be had at the stand), but we may mention that it includes such important works as "Architectural Water-colours and Etchings of William Walcot," in which this masterly draughtsman's works are collected for the first time; and "Small Houses of the Late Georgian Period," which, in addition to its hundred photographic plates showing choice examples of the late Georgian houses of which the peculiar charm had not been revealed hitherto, contains an illuminating essay on the subject by Mr. Stanley C. Ramsey, F.R.I.B.A. The "Library of Plates for Architects" and the "Practical Exemplar of Architecture"—the latter embracing in its several series almost every kind of exterior and interior design and detail—are attracting much attention from visitors, as are also the timely and useful twin volumes entitled respectively "Houses for Workers" and "Garden City Houses and Domestic Interior Details," which, between them, meet all housing requirements; and Mr. T. Sumner Smith's "Concise Costing for Houses," which sets out an improved system of quantity surveying, and elaborates a scientific method of costing. All our books and periodicals—including this journal, "Specification," and the "Architectural Review," may be examined at the stand, where all enquiries will receive the most courteous attention; and the publishers wish it to be known that any of our books purchased at the Exhibition will be sent post free to the purchaser's address.

Traffic in Working Drawings

A correspondent draws our attention to the presumed recurrence at Olympia of a regrettable feature of the Ideal Homes Exhibition. A certain firm of publishers have issued a circular (bearing the label, "We are exhibiting at the Building Exhibition") offering for sale "working drawings, consisting of plans, sections, and elevations of artistic and utilitarian houses, cottages, and bungalows. These drawings are to scale of one-eighth inch to the foot, and are reproduced on stout drawing paper and sold at the low price of 7s. 6d. for one copy, 14s. 6d. for two, and 21s. for a set of three." This circular is being sent to contractors, to whom obviousl it is a strong incitement to dispense with the architec On that ground we protest against the traffic, to whic the attention of the R.I.B.A. is invited. It is th bounden duty of the Council to protect profession interests from whatsoever quarter they are assailed; an it seems to us that those interests are somewhat seriousl threatened by this invitation to contractors to purchas working drawings at low prices. The incident may b useful, however, in showing the need for acceleratin the Registration movement; for Registration should e sure among contractors a more wholesome respect fo the architects' rights.

A Lesson in Law

There is a lesson for architects in the appeal case Bedford College v. Guest. Bedford College for Wome is in Regent's Park, and comprises a porter's lodge, mansion-house, and seven large blocks of buildings use as places of education. The entire range of building was assessed as one, on the sum of £6,500. The Colleg Council contended that only the inhabited buildings—the porter's lodge and the mansion—were assessabl but the court of first instance (Mr. Justice Rowlatt) he otherwise, and this decision was upheld by the Court Appeal, consisting of the Master of the Rolls and Lor Justices Warrington and Scrutton. In delivering jud ment, the Court took into account the facts that covere corridors joined the residential to the education blocks, and that the gas-pipes and water-pipes we continuous throughout the range of buildings. Th appeal therefore failed. It was hinted, however, th very slight structural alterations would suffice to exclu the educational blocks from the assessment. Disconne the pipes and demolish the covered ways, an you effect an immense saving in the rates. Sublime simple, is it not? Much as we reverence the majes of the law, we cannot help reflecting that on occasion th law can be giddily frivolous. Imagine three learne judges solemnly listening to the arguments on both sid on a question of whether the school buildings were pa of a dwelling because they were connected by condui and corridors! Architects will make a note of th exquisitely delicate (and equally idiotic) point of law.

A Raphael Commemoration

The four hundredth anniversary of the death Raphael Sanzio of Urbino was commemorated at Rom on April 6. In Britain very little notice was taken the event, although during the past quarter of a centur in no other country save Italy has the painter been mo ardently worshipped. His subjects being all sacre and his figures fully clothed, the "British matron who was once so menacing a censor, graciously approve his work, with the reservation that his themes were n strictly in accordance with the rampant Evangelicalis of the early 'sixties He was the most prolific painters, having executed, including his many fresco and ceiling paintings, no fewer than a hundred a forty-four works, although he died in his thirt seventh year. At one time it was an article of faith th he was the greatest of all painters, and that the Sisti Madonna is the most glorious picture ever paint But the times change, and we with them. Did there n arise among us a Pre-Raphaelite School? Nothing likely to change, however, the accepted estimate of t man's gentleness of character. Old Vasari says in effe that his presence banished all discords, foes becomin friends where he went. "All confessed the influence his sweet and gracious nature, which was so replete wi excellence, and so perfect in all the charities, that n only was he honoured by men, but even by the ve animals, who would constantly follow his steps, a always loved him."

Registration: The Topic of the Hour.—2

Further Opinions from Prominent Provincial Architects

LAST week we gave (pages 431 and 432) a batch of opinions expressed in personal interviews with our Special Commissioner by prominent architects in Liverpool, Birmingham, and Manchester. This week we give the results of further interviews, and it would seem desirable, if not absolutely necessary, to preface them with a remark that may prevent misapprehension. That we have always consistently advocated Statutory Registration of Architects is well known; but we hardly need add that this inquiry has been conducted with the strictest impartiality. In making his investigations, our Special Commissioner was scrupulously careful to abstain from saying a single word that could in the slightest degree influence the opinions which he sought to elicit. His object was not to proclaim our views, or to make converts, but to find out what representative architects in the provinces are really thinking on this supremely important topic of Registration. In these circumstances, the almost unbroken unanimity of the affirmative answer is very remarkable. It indicates that apparently the provinces are solidly in favour of the reforms we advocate.

In a few instances there has been some slight demur to amalgamation of the two societies, the opposition coming in one case from a member of both organisations. But the whole-hoggers are greatly in the majority; the opinion prevailing among them being that there are no insuperable obstacles to that complete solidarity which would bear down all resistance in Parliament, and would be the most effectual means of winning public respect for the profession of Architecture.

Architects are too modest. Not one of them, no matter how much he may pride himself on being practical, but has a touch of the artist in him, and the merest *soupçon* of this character is a drawback. It discounts his value in the market-place. He is apt to be unimpressive. And as with the unit so with the aggregate. The Architectural Profession is not nearly so impressive as it might be and should be, and as it will be when it acquires the status and power of a thoroughly united profession.

The first effect of unity should be that no man who is not an architect will be allowed to call himself one. He will not be prevented by statute from practising as an architect, but this he will do at his own peril, and he will be in the unenviable position of the "blackleg" lawyer and the quack doctor or the unqualified dentist.

But the first step towards Statutory Registration, a condition precedent and essential to it, is unity. Parliament will not listen to a divided body; and already the public are perplexed by the existence of rival organisations, and of varying grades or degrees. How should the layman assign the respective shades of competency to a Fellow, an Associate, a Licentiate, an M.S.A.? We trust that under the New Charter now in process of incubation by the mixed committee sanctioned by the meeting of March 22, these invidious distinctions will be ruthlessly swept away. That they operate injuriously and unjustly is notorious: an inferior Fellow may be chosen in preference to an Associate who happens to be more competent, while often a Licentiate is passed over for the simple and wholly insufficient reason that the other grades are more generally familiar. One has heard of architects who, practising among densely ignorant persons, have sought to impress them by joining all the professional organisations, so as to collect a long and imposing array of initials to figure on a billhead or a brass plate. The subscriptions are regarded as an investment yielding an excellent return. That is either a sordid or a vainglorious thing to do, and the new charter should prevent its being done. As a matter of sentiment, we should be sorry to lose the dear old "F.R.I.B.A." It might be reserved for a select few Olympians who, having achieved fame and fortune, would be above rivalry, and who would disdain to accept a "flat-rate" fee for the emanations of genius. It is not expected that genius should be content with a journeyman's wage.

These, however, are minor details. A major detail is, How shall the profession achieve solidarity? What form the necessary "united front" is to assume at the outset is the grand crux of the situation. Shall it be fusion, or shall it be federation? By fusion is meant, we take it, that the two central organisations shall become one, for the avoidance of waste of energy and of effort—of all the dangers and disagreements of divided counsels. Federation would mean independence and autonomy for the two central societies, which, however, would draw closer, becoming allies rather than antagonists, but would not fuse. Or, again, it might mean that while all the purely architectural elements represented on the composite committee would fuse, its other elements would enter into a federation, of which the main object would be closer conference, and hence better mutual understanding.

These points await deliberation and debate, first by the committee, and afterwards at a great special meeting at which all the interests concerned would be admitted.

As we have already explained, it seemed to the editors of this Journal to be of supreme importance to place on record the views of representative architects in the provinces on the great question of the hour, and our endeavour to render this service, at a critical juncture, to the Architectural Profession has met with warm approval from both the Institute and the Society, and from prominent members of the profession in the great provincial towns who accorded personal interviews to our Special Commissioner. The results of his investigations seem to show, as we have already said, a virtually unanimous declaration in favour of Statutory Registration. This week we print a further batch of opinions gathered in Birmingham, Liverpool, and Manchester, and next week we shall summarise the general results. In the meantime we invite further opinions of all shades and from all quarters.

The Parallel of the Medical Profession

Mr. Lionel B. Budden, M.A., A.R.I.B.A., of Liverpool University, was in favour of united action on the part of the whole profession to secure the statutory registration of architects. Once this was obtained admission to the profession should only be possible through the recognised schools. Every other door should then be closed. The procedure adopted by the medical profession in 1858 should, in fact, be followed. There seemed to be reasonable grounds for hoping that this would be done and that the committee of representatives of the whole profession about to be set up on the initiative of the Institute might, in the end, and with necessary modifications in its constitution, very properly develop into a supreme council analogous, in position, powers, and prestige, to the General Medical Council.

Those who objected at this stage to the recognition of architects belonging to no professional organisation attached an exaggerated importance to the qualifications given by centralised examining bodies. Such persons lacked a true sense of values, and displayed an ungenerous spirit in a question vitally affecting the future of the profession as a whole. An all-inclusive policy at the present time was essential to success.

For a Strong Professional Union

Mr. H. W. Hobbiss, A.R.I.B.A. (Birmingham), said that although at one time he was opposed to it, he was now in favour of amalgamation and the creation of a strong professional union. The practice of architecture to-day abounded with difficulties, and there were all sorts of questions of professional importance—questions of contract, disputes between architect and client—upon which there should be, but was not, a settled policy. This could only come by having a united body with one mouthpiece empowered to speak on behalf of the entire organisation. There was the question also of the large corporations which employed their own architects. There was no objection to this practice in principle, but, in the interests of the profession, there should be some means of seeing that the men employed were qualified architects. Mr. Hobbiss was convinced that as a result of unity greater power would accrue all round. He felt it was a grave reflection on the governing bodies of the Institute and of the Society of Architects that a common formula could not be found in order to present a united front.

Unity Before Registration

Mr. Rupert Savage, F.R.I.B.A. (Birmingham), agreed that unity was an essential preliminary to Registration, the achievement of which should considerably enhance the status of the architect, giving him powers similar to those enjoyed by doctors and lawyers. The public would place themselves unreservedly in the hands of doctors and lawyers; but when it came to the question of designing a building, they thought they knew just as much as the architect. Registration, Mr. Savage thought, would so increase the prestige of the architect that people would be content to rely upon his judgment in matters relating to his art. Only by Registration would they be able to raise and improve the general standard of architectural design, and secure that all buildings should have a certain amount of architectural character. Although it might be possible to achieve architectural unity, Mr. Savage was not altogether confident that Parliament could be brought to see the necessity for Registration.

Unanimous for Unity

Mr. Bernard A. Porter, Honorary Secretary of the Birmingham Architectural Association, assured our representative that in Birmingham opinion was virtually unanimous for professional unity with a view to securing Registration. In Birmingham, unfortunately, there were men practising as architects, without any proper qualification and belonging to no professional organisation, who were doing a good deal of injury to qualified architects and the profession generally, by working for fees much lower than the standard scale of charges. Such undercutting ought not to be allowed: for, apart from the injury done to the competent man, the unqualified practitioner was a real danger to the public. The only way to improve matters was to create a supreme organisation to secure the statutory registration of architects.

Another evil was the growing practice among builders of undertaking the preparation of plans themselves, and thereby attempting to create the impression that architects were not necessary. In some cases where this had been done, builders, finding themselves in a tangle, and not knowing what to do, had actually come to architects to get them out of their difficulties. If the architectural profession were united, builders would hesitate to do this kind of thing, knowing that they would get themselves into disfavour with architects. Mr. Porter mentioned that in Birmingham the power of deciding what was and what was not luxury building had recently been conferred upon the local Housing Committee. Such a thing, he thought, ought not to be. A housing committee was, in the nature of things, scarcely likely to be an impartial body. This provides a good illustration of one of the consequences of professional disunity. If the Institute were really strong, representing the whole profession, it should be able to prevent such an anomalous state of affairs.

Amalgamation as an Expedient Policy

Mr. Arnold Thornely, F.R.I.B.A. (Liverpool), expressed the opinion that amalgamation between the Royal Institute of British Architects and the Society of Architects had become expedient as a matter of professional policy, though there were certain objections to it from the point of view of individual architects. Assuming that the fusion took place, all members of the Society of Architects would automatically become members of one or other grades of the Institute, with whatever distinction might accompany membership of that body. This would create discontent amongst a certain number of those who had qualified for membership of the Institute by examination. Mr. Thornely thought, however, that the sacrifices involved should be made by this generation in the interests of present unity and for strengthening the profession of architecture. He pointed out that the situation is not altogether dissimilar from that of twenty-five or thirty years ago, when large numbers of architects were elected direct to the Fellowship of the Institute without examination. What was then done to broaden the basis of the Institute would now have to be repeated on a larger scale. Unity attained, the profession could go ahead and secure Registration—an object which was now as much the aim of the Institute as of the Society—and this accomplished, it would be a simple matter to see that incompetents were kept out of the profession. Mr. Thornely expressed the belief that fusion would on the whole be of benefit to both Institutions.

A Difficult Question

Another prominent Birmingham architect, who desired to remain anonymous, said that the question bristled with so many difficulties that it was by no means easy to come to a definite decision either one way or the other. He was certainly in favour of the improvement of professional education and of raising the level of architectural design, but he would rather these things were accomplished without reducing their organisation to the level of a trade union—and that, it seemed to him, would be the effect of Registration. Upon architects, however, devolved very serious public responsibilities—construction, sanitation, and so forth—and he thought it should be made impossible for unqualified men to take upon themselves the discharge of duties upon which depended the safety and well-being of the community. As a minor point of interest, what would happen under Registration to those people who specialised in repairs and dilapidations? This kind of work required no very extensive knowledge of architecture, yet it came within the purview of the architect. If it was proposed that this work should be done under the direction of no one but a registered architect, he thought there would be considerable opposition to Registration.

Sacrifices for Unity

Mr. H. S. Scott, A.R.I.B.A. (Birmingham), said he was in favour of fusion, and was willing to sacrifice whatever status the Associateship might carry with it in order to close the profession. He did not think that the Associates would be any the worse off by the admission of men to their ranks without examination. After all, the value of their (the Associates') studies was a personal thing that could not be taken from them, and it was bound to show in their work.

(To be continued.)

odern Ecclesiastical Architecture. 6.—St. Agatha's Church, Birmingham

W. H. Bidlake, Architect

The name of Mr. W. H. Bidlake is associated with the design of much modern ecclesiastical architecture of a refined and distinctive character, St. Agatha's, Birmingham, being an admirable example of his work. A striking feature of the interior is the use of brick piers set diagonally—carrying the nave arcades and the arches to the clerestory windows. Note also the original character of the tracery to the east window.

The Week's News

Halifax Housing

The Halifax Corporation Housing Committee stimate that £1,500,000 will be required for the erec-on of houses under the housing scheme for the orough.

New Mining Village

The Housing and Town Planning Association pro-ose to erect 2,000 houses at Llay, a new mining llage near Wrexham. The colliery will be the largest the North Wales coalfield.

Danbury Sanatorium

Essex County Council purpose erecting a large ounty tuberculosis sanatorium on Danbury Hill. The te acquired is known as Rectory Farm, thirty acres extent, and situated on the west side of the hill.

1,000,000 Canadian Development Scheme

Building to the extent of five million dollars will be ndertaken by the city of Calgary during the spring nd summer This includes $200,000 on new schools, large sum on a new Normal School and Institute of echnology and Art, and $200,000 on the exhibition ranch.

Edinburgh Memorial

A commencement is being made with the construc-on of a King Edward VII. Memorial at Holyrood alace, Edinburgh. Stone piers, parapet walls, iron ates, and other architectural features are to ected at the North Gates at Holyrood Palace, also a reen wall and pedestal for a bronze statue. The lans of the work are by Mr. G. Washington Browne, .S.A.

All Saints' Church, York

The condition of the fabric of All Saints' Church, avement, York, one of the most historic and icturesque of the city's ancient churches, is giving ccasion for serious concern. A careful inspection of e edifice has been made by Mr. George Benson, .R.I.B.A., who has submitted a detailed report as to e condition, with suggestions for repair. The work ill in all probability cost £3,000.

Sir James Carmichael

Sir James Carmichael has been obliged under edical advice, to take three months' complete rest. ir James has felt the severe strain which his work as irector-General of Housing has entailed; and he will ot be in attendance at the Ministry of Health for ree months. The Housing Department has accepted nders for 90,000 houses; and it is therefore possible r Sir James to take the temporary respite which octors' orders have rendered imperative.

ondon Exhibition of Students' Drawings

An exhibition of drawings is now being held at the alleries of the Architectural Association, 34 and 35, edford Square, W.C. The exhibition, which will main open till the 20th, comprises representative chitectural drawings by students of the Massachusetts stitute of Technology, the Ecole des Beaux Arts, d the Architectural Association. The galleries will open daily (Sundays excepted) between 10 a.m. d 10 p.m.

Cement Industry for Jamaica

In a lengthy report to the Government upon the velopment of Jamaica's resources, Major T. G. lloch, R.A., late of the Munitions Invention Depart-ent, states that there is a great opening for enterprises connected with improved transportation, one of which is the manufacture of cement of which large quantities will be required for the building of light railways and for other building operations. This points to the necessity for a cement industry in the Colony, it having been conclusively proved that Jamaica possesses all the ingredients necessary for the manufacture of high-class cement. Not only will the island be able to supply its own needs in this respect, but those of all the neighbouring countries of South America.

Purchase of Milford Haven

The entire town of Milford Haven, Hakin, and Hubberston, together with the old mansion of Castle Hall, the lordship of three manors, and the market tolls of the town have been acquired by Major Hugh James Protheroe Thomas, O.B.E., head of the firm of Messrs. James Thomas and Son, of Haverfordwest, and an architect of considerable repute in South Wales. Castle Hall, where Major Thomas proposes to reside, was the home of Lady Hamilton, whose name was linked with Lord Nelson. From a commercial point of view the port is still in its infancy. Major Thomas is giving the opportunity to all his tenants to purchase their freeholds if they so desire.

Equipment of Small Holdings

The Ministry of Agriculture and Fisheries has issued a circular to county councils and councils of county boroughs reminding these bodies of the need for rigid economy, and at the same time suggesting methods of saving. The minimum size of cottages must be adhered to, but cubical content should be brought down to the very lowest and fittings kept as inexpensive as may be consistent with durability. It is not considered advisable to provide all brick or all stone farm buildings, whether tiled or slated, if the cost can be reduced by constructing foundations only of brick, stone, or concrete. The superstructure might then be of home-grown timber covered with elm or deal weather boarding, the latter preferably creosoted. Adapted army huts may be found useful, but these must have a concrete floor and a solid base, the timbers being at least eighteen inches above ground level.

The Confessor's Palace

Captain Vaughan-Williams, who is making excavations on the supposed site of Edward the Confessor's Palace in Windsor Great Park, has made several important discoveries there within the last few days. The most interesting is what is thought to be the dedication stone of the Saxon place of worship. Upon this stone there are a mark of a cross and what looks like some Saxon lettering. The stone has been chipped at one corner and part of the cross destroyed. Captain Vaughan-Williams regards this as his most valuable find at present. Among other discoveries made are the remains of a kitchen and banqueting hall, measuring from 90 ft. to 95 ft. in length, the remains of possible Roman baths and also the floor of the portico of the Royal apartments. Captain Vaughan-Williams is of opinion that these discoveries confirm the statement of Mr. Forestier that this was the site of Roman villas and baths. On the site of the chapel, which was discovered some time ago, an extension of the wall has been found ending in a square foundation which was evidently a small tower or belfry. Bishop Browne, an ex-president of the Society of Antiquaries, who recently visited the spot, said the longer altar in the chapel was for the worship of God, and the smaller one for the worship of devils. The church (which is apart from the chapel) is 40 ft. long, and ends in an apse, but not a round apse. It has two small altars on each side.

Architectural Causerie:

Thames Bridges and Embankment

THOSE who have a real knowledge of the Thames, and of all that its magic name implies, are the more fully equipped to appreciate the character of London. For the waterway is the main artery along which courseth the life-blood of the City; connecting yet dividing a duality, pulsating with the tides, and breathing of the sea. To comprehend the grandeur of the *mise-en-scène* the eye must travel from the Palace of Westminster, along the bend of the river, to where the dome of St. Paul's rules innumerable underlings. Ten square miles closely packed with buildings must be viewed in less than a minute.

* * *

In the courtyard of Somerset House is a group in bronze on a stone pedestal; a colossal figure of Father Thames reclines with urn and cornucopia, while dominating the group from a higher plane a statue of George III., garbed in Roman toga, and attended by a lion couchant, stands against the rostrum of a galley; a benign hortator whose gavel is a rudder. In this beautiful group of statuary the sculptor has symbolised the relation of the river to the City. Not only does it commemorate the erection of the finest London official building; it marks the dawn of modern activity.

* * *

What makes the most direct appeal to the imagination is the concrete embodiment of intellectual activity expressed in terms of architecture. Remove from their setting the precious stones which now enrich the northern shore, and what aspect would London present? Who could fail to admire the storied terraces of Somerset House, which formerly rose sheer from the water? Who can restrain a thrill on beholding the Palace of Westminster, Barry's immortal grouping; refined and scintillating with intricate jewellery fashioned by the cunning of Pugin? These are the works standing forth as the richest of London's treasures. Co-ordinated by Bazalgette's embankment, they satisfy the Englishman's love for the real and the permanent. In the grand sweep of the northern embankment, now partly extended beyond Westminster, exists an architectural asset of superlative merit. No doubt the future will see the embanking of the southern shore. Professor Beresford Pite has a dream of futurity embracing a grand river boulevard running from Southwark Cathedral to Hampton Court, linking the Cathedral to the Palace at Lambeth, giving Battersea Park a river frontage and extending to Wolsey's Palace.

* * *

The character of London is unique. It partakes of a cosmopolitan flavour. There is a suggestion of the Eternal City imparted by the glorious dome; something of the formality of Paris is implied by the spreading lines of Chambers's masterpiece; a touch of the Viennese Ring is discernible in the silhouette of the buildings at Westminster. And what could be more instructive than the subtle fusion of the old courtly life of the eighteenth century with the changed conditions of the nineteenth now fast receding? We must regard the buildings of this great epoch as conventional scenery, focal points punctuating a noble stream. If the northern embankment presents a continuous and harmonious effect, the southern shore is sharply defined as an excrescence on the countenance of the City. The time has long since passed for us to express our rapture over the merely picturesque; we can sympathise with the views drawn for Malton's celebrated tour; we can delve into the volumes of sketches assiduously collected by Crace, but the present demands improvement; and London, to be worthy of its position in the world, needs to be as finely clothed as her sister cities.

* * *

If the waters of the river divide, they also connect; for the common interest of the citizens of the dual city are centred upon the great waterway. For greater convenience, quasi-architectural structures span the river—viaducts of masonry, intricate circles of steel. Foreigners often remark with surprise on the small number of bridges crossing the Thames, and contrasted with the Seine the number is few. We do not desire more; rather we devoutly wish for the decree to go forth for the abolition of railway bridges. Little more than a century and a quarter ago, communication between north and south was maintained by only three bridges, and those of a type inadequate to deal with the vehicular traffic.

* * *

Old London Bridge survived, with continual patching, from mediæval times until 1823, when the present structure was erected from the designs of Rennie, by his talented sons George and John. Previous to this very necessary rebuilding, between the years 1739-1750 Labelye carried out the stone bridge at Westminster. This structure was followed by Mylne's design, based on an idea of Piranesi's, for the old bridge at Blackfriars, which was completed in 1770; the work occupied nearly eleven years. The design of the latter structure evidently suggested a prototype to Rennie, especially for the architectural motif of coupled columns, when he prepared his designs for the Strand (now Waterloo) Bridge. Canova declared the latter to be the finest work of modern times; its nine elliptical arches of equal span and rise springing from stone starlings surmounted by Doric pylons, reveals Cyclopean handling. The genius of John Rennie inspired him to employ gigantic iron castings for Southwark Bridge, which he commenced in 1814. This bridge was opened for traffic in 1817. The bridge was condemned partly on account of its steep approaches and partly because of its insufficient width for modern requirements. Sir Ernest George has remedied these defects in his new bridge, which is now well on towards completion.

* * *

It is noteworthy that the three finest bridges crossing the Thames are the product of one master mind, and moreover were inspired by the pursuance of a great tradition. Waterloo Bridge, dramatic and monumental; Southwark Bridge, fairylike and dainty, spanning the waters in three moves; London Bridge, silvery grey, solid and unpretentious. Of the more recent bridges but little can be said in praise of their appearance. The Tower Bridge is a clever toy; the railway bridges, red with rust, lack urbanity; the modern Blackfriars viaduct is smugly Victorian; and Father Thames is now threatened with another load in the shape of the new bridge at St. Paul's. We architects should rise as a body to enquire into such projects. Are we to have another bridge almost duplicating a railway structure? London for years has suffered much from ill-advised improvements; she has endured tortures of every description; she needs the controlling genius of a master mind to shape her future development.

AERO.

Current Architecture. 13.—The Architectural Association's New Library, 34 & 35, Bedford Square, London

Robert Atkinson, F.R.I.B.A., Architect

A valuable adjunct to the social amenities of the Architectural Association consists of a suite of finely appointed club rooms, now receiving the finishing touches at the hands of the decorators. The rooms, which have been available for the use of members since the 12th inst., comprise a commodious dining room, which will be open on week days between 11 a.m. and 8.30 p.m., and where 2/- lunches, teas, and 2/6 dinners will be served; a large smoking room and library lounge, a reference library, and a writing room. Mr. Robert Atkinson, F.R.I.B.A., has been entrusted with the architectural work, and, as will be seen from the accompanying illustration of the library, the selection has been a very happy one. The library is intended as a memorial to those members of the Association who lost their lives during the war, and a roll of honour over the fireplace forms the central feature of the decorative scheme.

Construction. 10.—Station Buildings at Buenos Aires

THE employment of steelwork in the construction of buildings has solved many a problem for the rchitect, and enabled him to obtain pecial æsthetic effects in great public nd commercial buildings. The introuction of steel not only reduces the mount of brickwork and other materials, ut also enables the architect to obtain ıe desired proportion of lines and masses ıth greater ease and comfort, and at a onsiderable saving in cost.

These generalisations have a special pplication to the new Retiro Station uildings, Buenos Aires, and the followıg description and reproductions are ıerefore of peculiar interest.

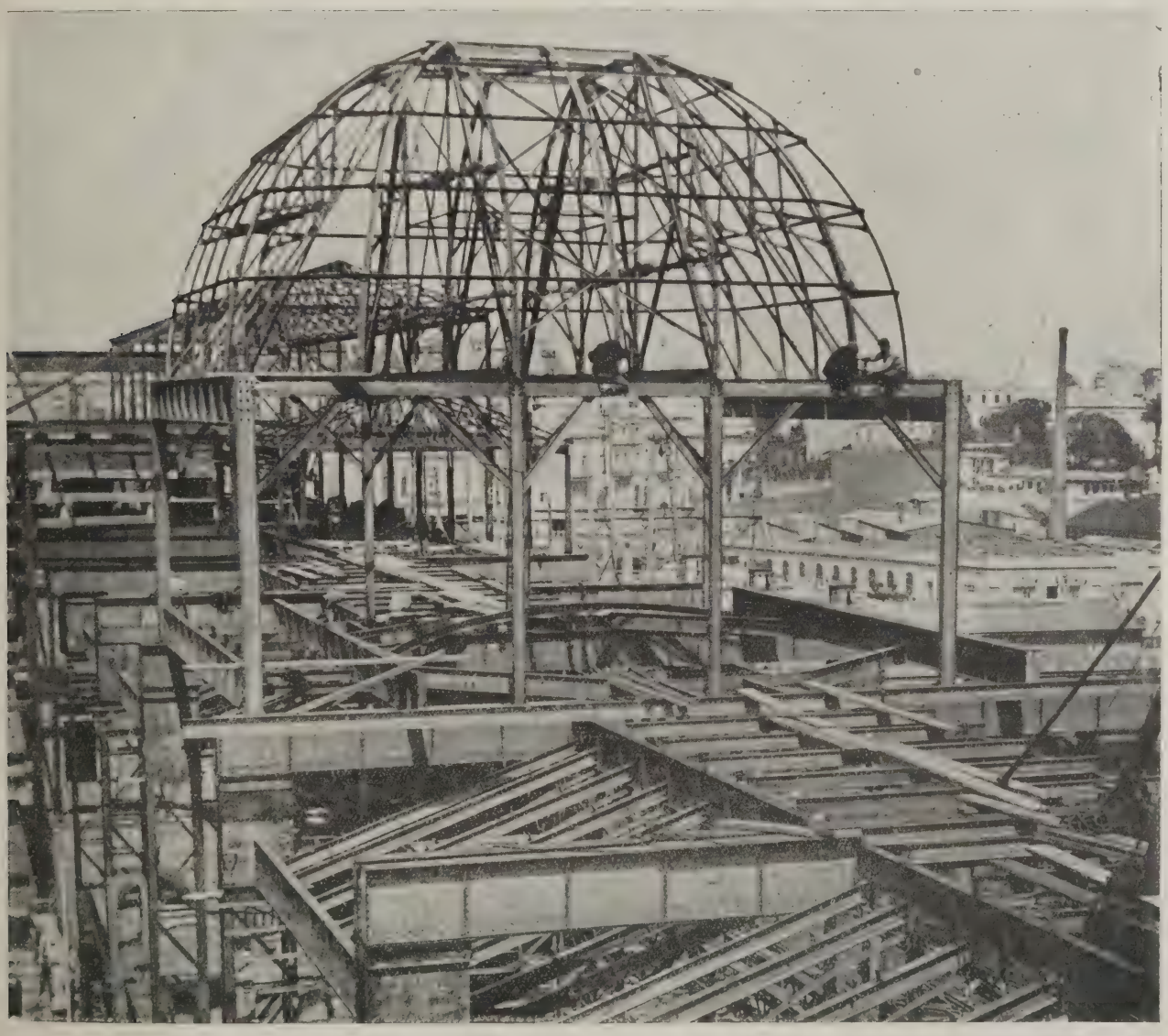
Illustration No. 1, a view of the front levation of the station to the Plaza ritannica, shows the three main blocks orming the station. Reading from the eft, these are respectively named Conteria, Salones, and Servicio; the whole overing a total area of approximately o,800 square yards.

The large drawing reproduced on age 477 gives a clear idea of the true reıtionship of the above blocks, and also shows cross sections through various parts of the building.

1.—GENERAL VIEW OF STATION BUILDINGS.

To enable the many architectural features of the building to be successfully developed, it was necessary to employ constructional steelwork of a varied type and on a large scale. The buildings are therefore of steel-framed type throughout, the total weight of metal being upwards of 2,150 tons. The whole of this steelwork was designed, manufactured, and erected by the structural engineers, Messrs. Dorman Long and Co., Ltd., Middlesbrough (to whom we are indebted for the loan of the accompanying illustrations), and under the superintendence of the architect, Mr. L. E. Conder, of Buenos Aires.

In some cases, as, for instance, in the Grand Hall, Salones block, shown in



2.—NEW RETIRO STATION BUILDINGS, BUENOS AIRES: STEELWORK TO DOME.

3.—THE BOOKING HALL.

illustration No. 4, the steelwork required careful consideration from the æsthetic side, as much of it is left exposed amidst plaster-covered surroundings.

Illustration No. 5 shows the steelwork in the roof over the grand hall (the Boleteria), and the inside view of the finished structure is seen in illustration No. 4.

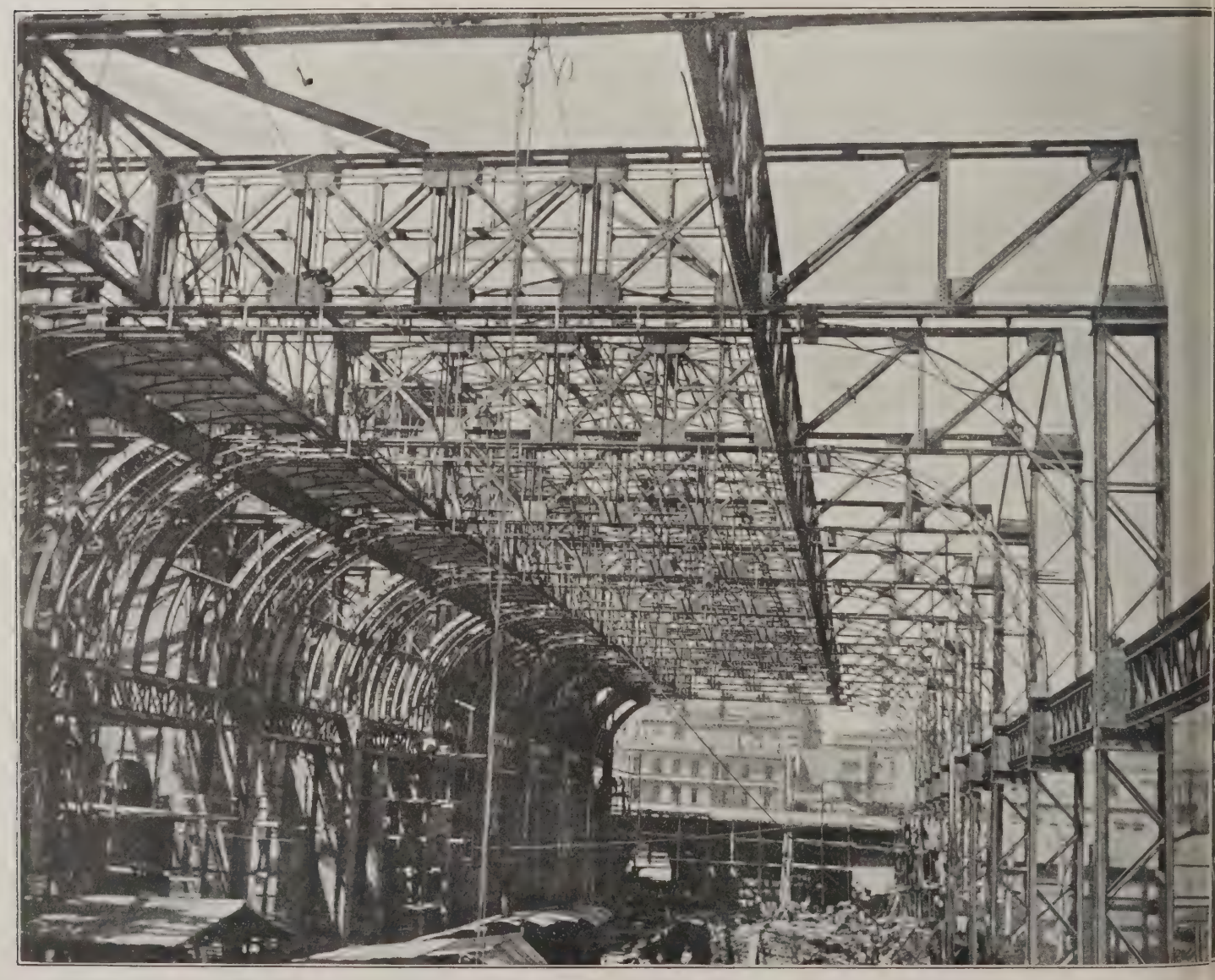
The main steelwork in this roof consists of large plate girders and rolled beams, which take the load imposed by the concrete and tiled roof, while curved angles are attached to the undersides of this main steelwork to form a soffit to the internal roof.

The floors of the Confiteria and Servicio blocks are of concrete carried on rolled beams, with permanent centering (Cimbrajes) of curved galvanized corrugated sheeting. The use of such permanent centering obviates the need for timber shuttering, with its inevitable delay in fixing and dismantling.

The method of construction, i.e., by employing large girders for wide spans, enabled the architect to secure spacious dining-halls and rooms, with the consequent opportunity for architectural embellishments.

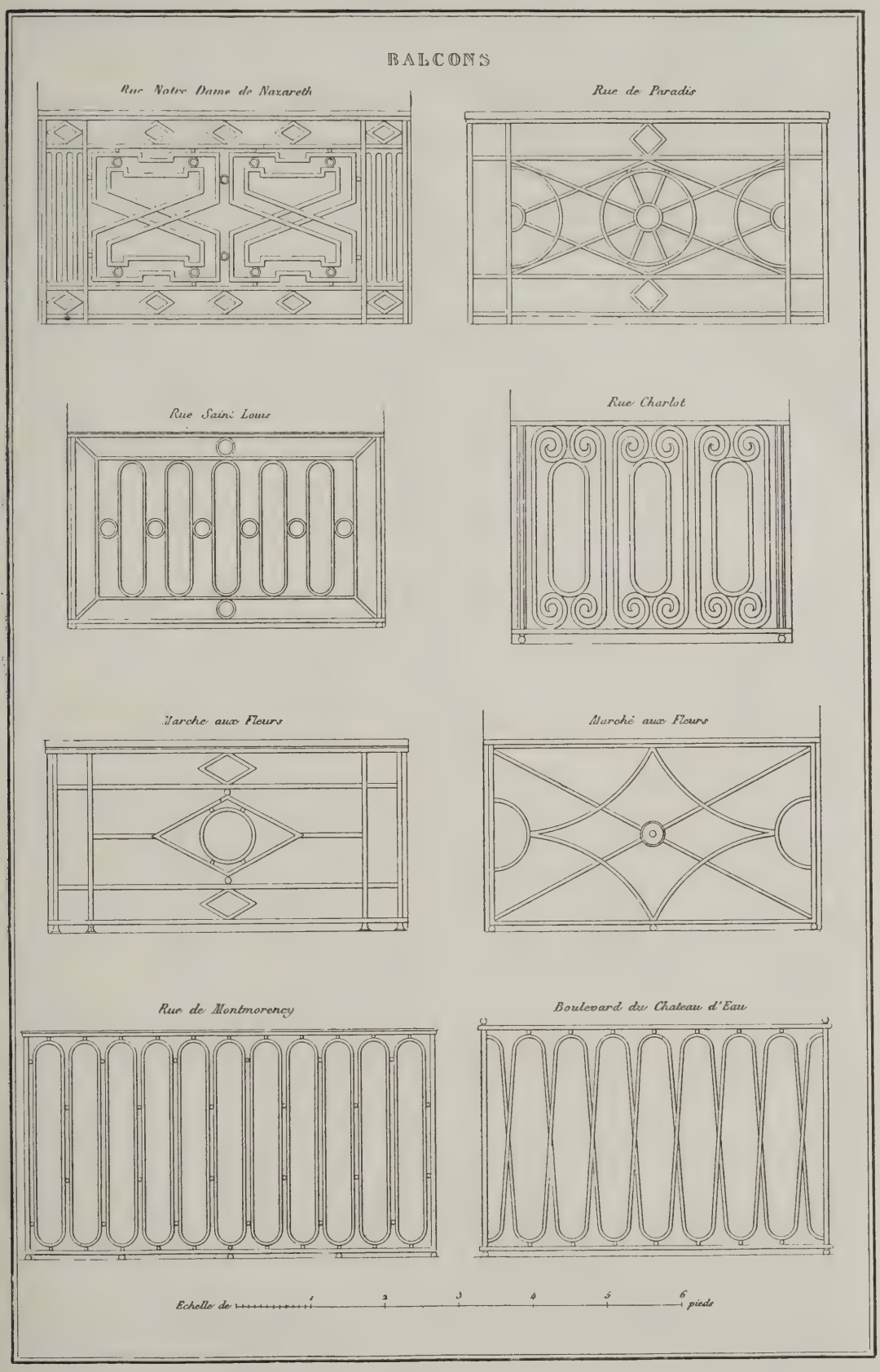
The accuracy in workmanship, for which the structural engineers are justly noted, is shown by the fact that the whole of the dome and other intricate work came together without the necessity for any

4.—THE GRAND HALL, SHOWING EXPOSED STEELWORK.

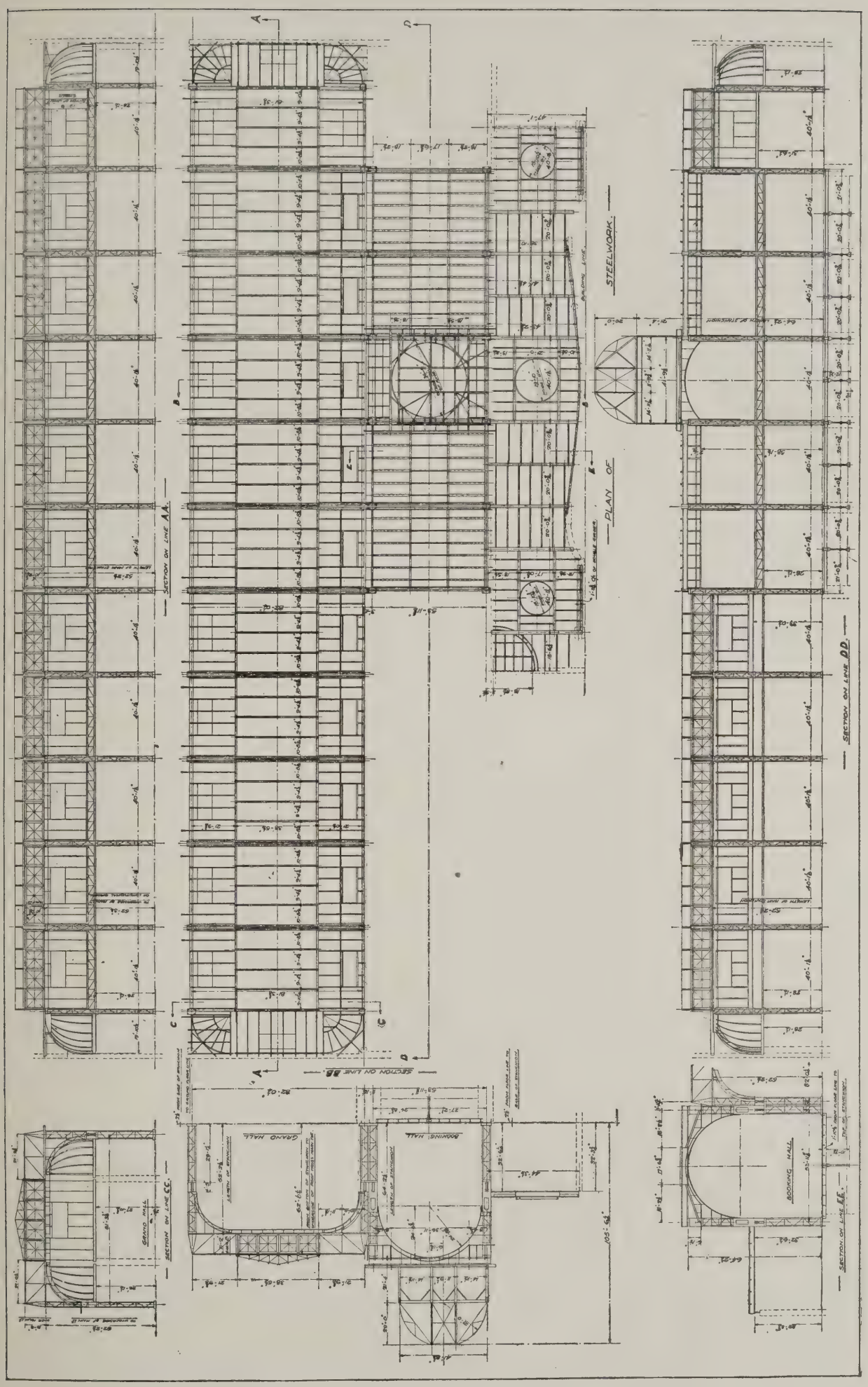


5.—NEW RETIRO STATION BUILDINGS, BUENOS AIRES: STEELWORK IN THE GRAND HALL.

French Metalwork. 12.—Some Paris Balcony Railings



Bury's drawings of ironwork cover the period of the matured French Renaissance. The motifs of the Directory and the Empire had considerable influence upon contemporary English work, and English adaptations of the above forms are to be found in abundance in London and Provincial districts.



RETIRO STATION BUILDINGS, BUENOS AIRES: GENERAL ARRANGEMENT OF STEELWORK.

adjustment at the site. It would have been quite impossible in carrying out a job of this nature to have attained anything like the accuracy achieved had the lessons of experience not been carefully applied in the manufacture of the fabricated parts at the works in this country before despatch.

This is a point which is not always appreciated at its full value by the buyer overseas. Occasionally one hears of jobs being placed at prices which, while they may seem extremely advantageous to a buyer, are apt to result in delays, annoyance, and subsequent expense quite out of proportion to the initial advantage of low price. These troubles are not only obviated, but a better business atmosphere is created when the work is placed in the hands of structural engineers who have experience of first-class work, and who naturally make provision for better oversight when quoting.

Competition News

War Memorial Halls, Sheffield.

Designs are invited by the Sheffield City Council for new public halls for music and public meetings to form the city war memorial on a site containing about 4,100 sq. yds., bounded by Barker Pool, Holly Lane, and New Street. The author of the winning design will be appointed architect for the work, and premiums of £250, £150, and £100 respectively will be paid for the designs placed second, third, and fourth. The building requirements and accommodation are summarised as follows: The architectural treatment of the exterior and interior is left to the discretion of the competitors, but it is suggested it should be dignified and simple without over-elaboration of detail. The principal front of the building shall be towards Barker's Pool. The memorial character of the structure should be indicated by sculpture to form part of design of main entrance hall or vestibule, or placed in an open loggia protected from the weather. Choice of materials for the building to be left to discretion of competitors, but all vital parts are to be fire-resisting, and all exterior walls must be faced with stone. The building shall accommodate a total of 4,000 people in two halls as follows: (a) The large hall to seat 3,000 persons in the auditorium on main floor and in galleries. The platform to hold an additional 500, ordinarily seated at 20-in. centres, or when otherwise arranged to accommodate an orchestra of 100 (allowing an average of 9 sq. ft. for each performer), together with a chorus of 350 seated at 21-in. centres. (b) The small hall to hold 500 persons at 20-in. centres, and small platform at one end. The acoustics, both for musical performances and speaking, are to be regarded as of the greatest importance, and competitors shall supply particulars of the principles adopted to ensure satisfactory results. In addition to the large hall the main building shall contain: (a) Crush hall and lounge foyer, (b) cloak and retiring rooms for both sexes respectively to various parts of the house, (c) kitchen and relative offices, (d) public office for hall-keeper, balcony, and box offices; (e) main, subsidiary, service, and escape or emergency staircases; (f) space for grand organ on or adjacent to platform; (g) retiring rooms for principal artistes and for chorus. Platform assembly rooms. Room for instrumentalists, all with independent access from outside; (h) chambers for boiler, heating, and ventilation plant, and coal stores (j) storage for platform seats; (k) housemaids' and cleaners' stores, together with such other subsidiary accommodation as is usual in buildings of this class. The instructions contain details of requirements to be complied with as to means of access and exit. For the purposes of the competition the building by-laws may be taken to be such as are generally applicable in all urban districts. The question of cost shall be a material element in consideration of the award. The expenditure is provisionally fixed at £200,000, to include professional fees, all external and internal finishings complete, electric lighting, heating, ventilation, lifts, sanitary and fire appliances, but shall not include organ or furnishing. Drawings required: (a) Block plan showing surrounding streets to 1-500 scale; (b) plans of each floor; (c) elevations of each point, and (d) one longitudinal and one transverse section, all to 1-16-15-in. scale; (e) details of one bay of main front, one bay of interior, and half-cross section of large hall, to ½-in. scale. Perspectives: One exterior view showing south-east angle of the building (actual building not to appear more than 18 in. long), and one interior of hall (not more than 14 in. wide). Designs must be delivered to the Town Clerk, Town Hall, by July 31, 1920.

Society of Architects' Victory Scholarship Competition.

"The Victory Scholarship" of the value of £100, and carrying with it the Gold Medal of the Society, is open for competition to any persons not exceeding thirty-five years of age, who are British subjects.

Regulations for Competitors.

1. The jury of the Beaux Arts Committee, Messrs. Arthur Davis, F.R.I.B.A., Robert Atkinson, F.R.I.B.A., and A. E. Richardson, F.R.I.B.A., will be the assessors, and their decision will be final.

2. The competition is open to all British subjects, male and female, under the age of thirty-five, and will consist of designs in architectural composition.

3. The competition is divided into two parts, as follows:

(a) The first competition, consisting of a twelve-hour sketch competition, conducted *en loge** in London, under supervision, at a place designated by the jury, who will also set the subject. Each sketch will be officially stamped by a representative of the jury, and the sketches will be exhibited and assessed by the jury, who will designate a maximum of ten competitors eligible to enter for the second competition.

(b) The second competition lasting four weeks, and consisting of a design based upon a second twelve-hour sketch executed under similar conditions and regulations.

The selected competitors will make and preserve a copy of their twelve-hour sketch, which will form the basis on which the final design must be carried out. The time allowed for completion is one month. Such competitors, after having produced their twelve-hour sketch, may receive the advice and criticism of their masters and fellow-students, but any serious deviation from their original twelve-hour composition, or any insufficient rendering, will disqualify the competitor.

4. The finished designs will be exhibited and assessed by the jury, who will award the prize to the author of the design t consider the best subject to the stand being sufficiently high to merit the awa If, in the opinion of the jury, none of designs reach the required standard excellence, the award may be withh for that year, and, in this case, the mo may, at the discretion of the Council the Society, be added to the general fu with the idea of subsequently increas the value of the prize.

If, in the opinion of the jury, designs are of equal merit, the prize n be divided and the medal duplicated.

5. At the end of the second and fi competition each competitor's origi stamped sketch will be pinned on to finished design, and if, in the opinion the jury, the main conception of sketch has not been adhered to, the co petitor will be disqualified.

6. The programmes will be handed the candidates in sealed envelopes on days appointed for the sketch comp tions, and the subjects will not be closed before those dates.

7. Both of the twelve-hour sketc must be executed *en loge* in London, the final design may be developed at place convenient to each selected co petitor.

8. The prize will be £100, and winner will be at liberty to spend money in any way he may choose, p vided he satisfies the jury that it devoted to the furthering of his educati

9. Entries close on April 10, 1920. first *en loge* competition will be held May 1, from 10 a.m. to 10 p.m., and second *en loge* and final competition month later.

10. Candidates will be notified of dates, times, and places of sitting. T must bring with them a drawing bo (Imperial), tee-square and instrume and also rations for twelve hours, as t will not be allowed to leave the build during the competition.

11. The Council of the Society Architects reserves the right to vary th conditions from time to time.

12. All communications must be addressed to the Secretary of the Soc of Architects, 28, Bedford Square, W.C where entry forms may be obtained.

Arthurat War Memorial Hall Competition.

The Competitions Committee of R.I.B.A. desire to call the attention Members and Licentiates to the fact the conditions of the above competition unsatisfactory. The Competitions C mittee are in negotiation with promoters in the hope of securing amendment. In the meantime Mem and Licentiates are advised to take no in the competition.

Competitions Open

Bradford-on-Avon.

War memorial. Cost £400. Premi 25 guineas. Apply Mr. J. Compton, W bury House, Bradford-on-Avon. Clo date, May 8.

Crouch End.

War memorial at Cottage Hosp Park Road. Premiums 30, 20, an guineas. Apply Mr. E. O. Whitehead Elder Avenue, Crouch End, N.6. Clo date, April 20.

Lockerbie.

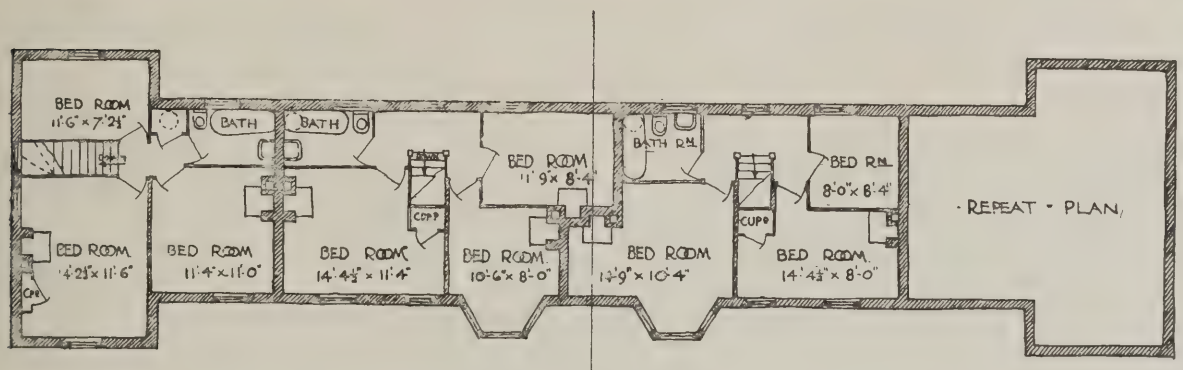
War memorial. Cost £2,000, e sive of roll of honour, architect's fees, outlays. Particulars from Mr. M'Jerrow, Town Clerk. Closing June 30.

* The term "en loge" signifies that the competitors will be isolated and must produce their sketches from the given programme without reference to books or documents and without consultation. Any competitor infringing this rule will be disqualified.

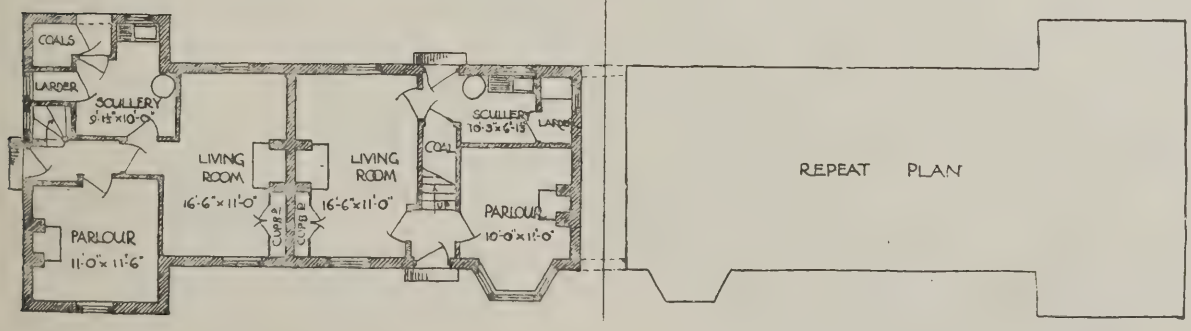
Modern Domestic Architecture. 5.—Group of Cottages at Barry Garden Suburb, Glamorgan

Built for the Welsh Town Planning and Housing Trust, Ltd.

T. Alwyn Lloyd, Architect J. A. Hallam, Deputy Architect



FIRST FLOOR PLAN



GROUND FLOOR PLAN

These illustrations show a good method of grouping four cottages together in a single block, variety being secured by projecting end pavilions and by bay windows to the two inside cottages. The walls are covered with two coats of cement rendering, colour washed. The windows are sashed, and the roofing is of hand-made tiles.

The Building Trades Exhibition

THE International Building Trades Exhibition at Olympia was opened by Dr. Addison, Minister of Health, on Saturday last. Mr. H. Greville Montgomery, presided at the ceremony in the Pillar Hall, and amongst others who were there to welcome Dr. Addison were:

Mr. John W. Simpson (President of the R.I.B.A.), Colonel Sir Henry Norris, M.P., Sir John Courtis, Sir Charles Ruthen, Sir Thomas Bethell, Professor Sir G. Sims Woodhead, Mr. Walter Smith (Deputy Director-General of Housing), Sir William Smith (President of the Royal Institute of Public Health), Sir Frank Wills, Sir Brumwell Thomas, Sir Francis Walker, Major J. R. Boose, and Major Bradshaw.

Mr. Greville Montgomery said that if Dr. Addison had been in the exhibition hall during the work of preparation he would have seen houses springing up with lightning rapidity, cottages with three bedrooms, sitting-room, bathroom, kitchen, etc., being erected in ten days.

Dr. Addison, in declaring the Exhibition open, referred at the outset to the "eternal difficulties" experienced in regard to the housing question, and said that it had been remarked to him that, so far as civilians were concerned, these were the real war. He hoped the Exhibition might be helpful in regard to the question of cost.

Tenders as they came in to the Ministry of Health, month by month, he regretted to say, showed a marked tendency to increase in amount. In this connection he was sorry that the meeting which was to have been held in the Guildhall on Monday for the promotion of the Housing Bonds scheme had had to be adjourned until May 3. Mr. Lloyd George was anxious to take the meeting himself. All over the country there was considerable difficulty in local authorities and others obtaining the necessary funds quickly enough. There were now at the Ministry cases amounting to several thousands of houses where the tenders had been approved, but the local authority could not sign the contract because the necessary funds were not forthcoming.

He looked to another important means of assistance to overcome the difficulties, and that was the encouragement of the use of alternative building materials and methods of construction, and, from his point of view, that was the chief value of the exhibition. A house built of brick was probably as cheap as any other, but the fact remained that they had not got the bricklayers, and therefore they were bound to look to other methods of building, apart entirely from whether they would like to have the houses all made of brick or not. The expense nowadays was at least three times what it was before the war, and he felt bound to make the unpleasant observation that we must face the necessity, in the present emergency, of a limitation of other forms of building where it could be avoided. In examining the difficulties, he found that the cost of materials of one sort or another formed a very high proportion of the increased cost of housing, and he hoped the trades concerned would do their best to co-operate with the authorities to see that they got adequate supplies of materials without exorbitant cost. This, he thought, was not an unfair request to make. The building trade was more in demand now than ever, and only excessive cost could check that demand to the detriment of the industry.

Mr. John W. Simpson, P.R.I.B.A., moved a vote of thanks to Dr. Addison for his kindness in coming there that day, which was, he said, an indication of the interest he had in the building industry. They had all come into contact with Dr. Addison at that great Ministry of Health which he created, and of which he was the first and illustrious chief. On one point at least all were agreed—and that was their personal liking for Dr. Addison, always courteous, always accessible, and with an unwearying devotion to national housing. Dr. Addison had endeared himself to them all. On behalf of everyone there, he (the speaker) was sure that their whole help and devotion would be at his disposal for increasing the progress of this great national problem.

Colonel Sir Henry Norris seconded the vote of thanks.

The official visits to be paid during the course of the Exhibition are as follows:—

Thursday, April 15, 2.30 p.m.—Visits of the London Association of Master Decorators and the Incorporated Institute of British Decorators.

Friday, April 16, 2.30 p.m.—Visit of the District Surveyors' Association.

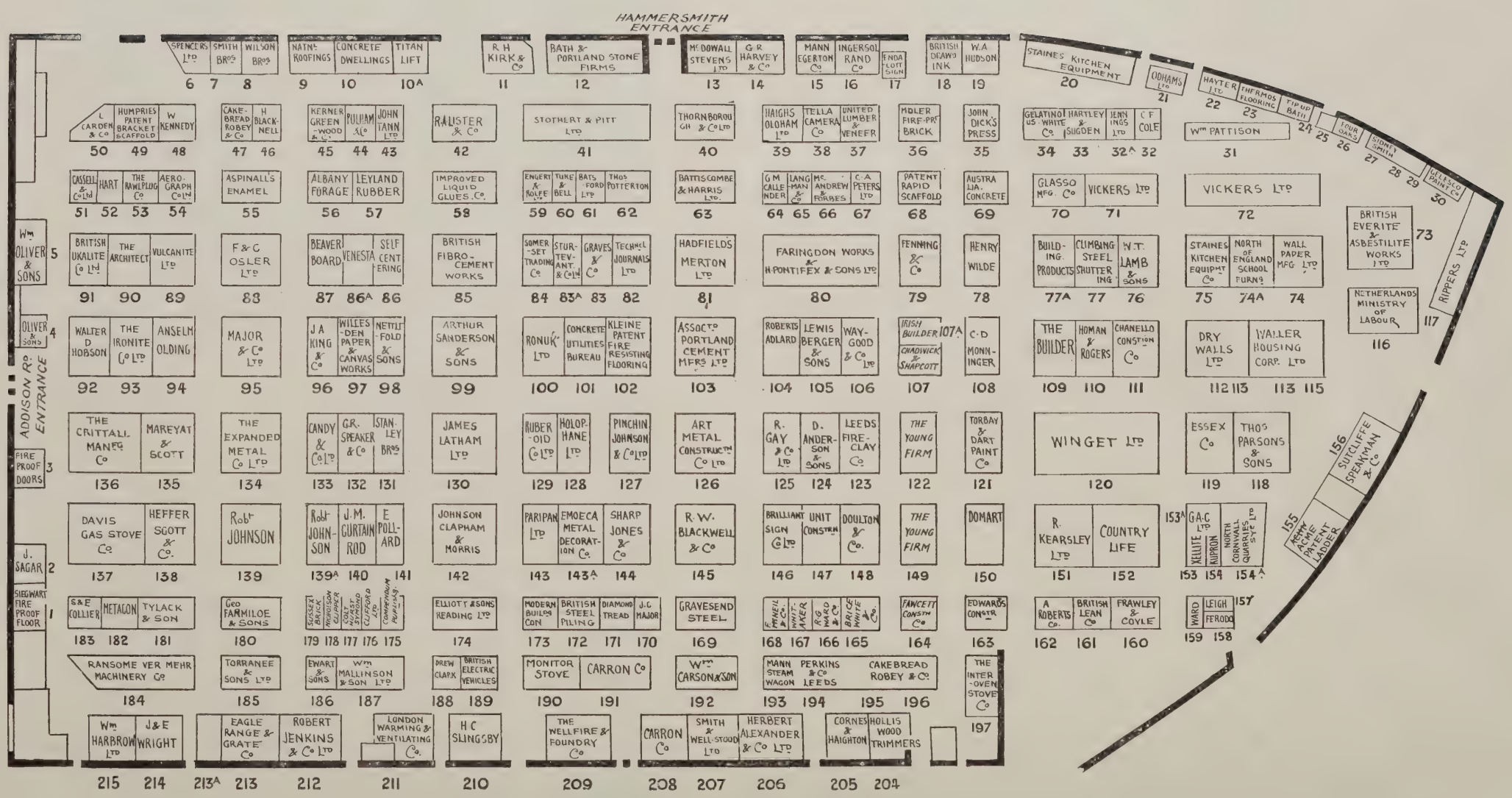
Saturday, April 17, 3 p.m.—Visit of the Institution of Sanitary Engineers.

Monday, April 19, 3 p.m.—Visit of the Society of Architects.

Tuesday, April 20, 2 p.m.—Visit of the National Federation of Building Trades Employers of Great Britain and Ireland.

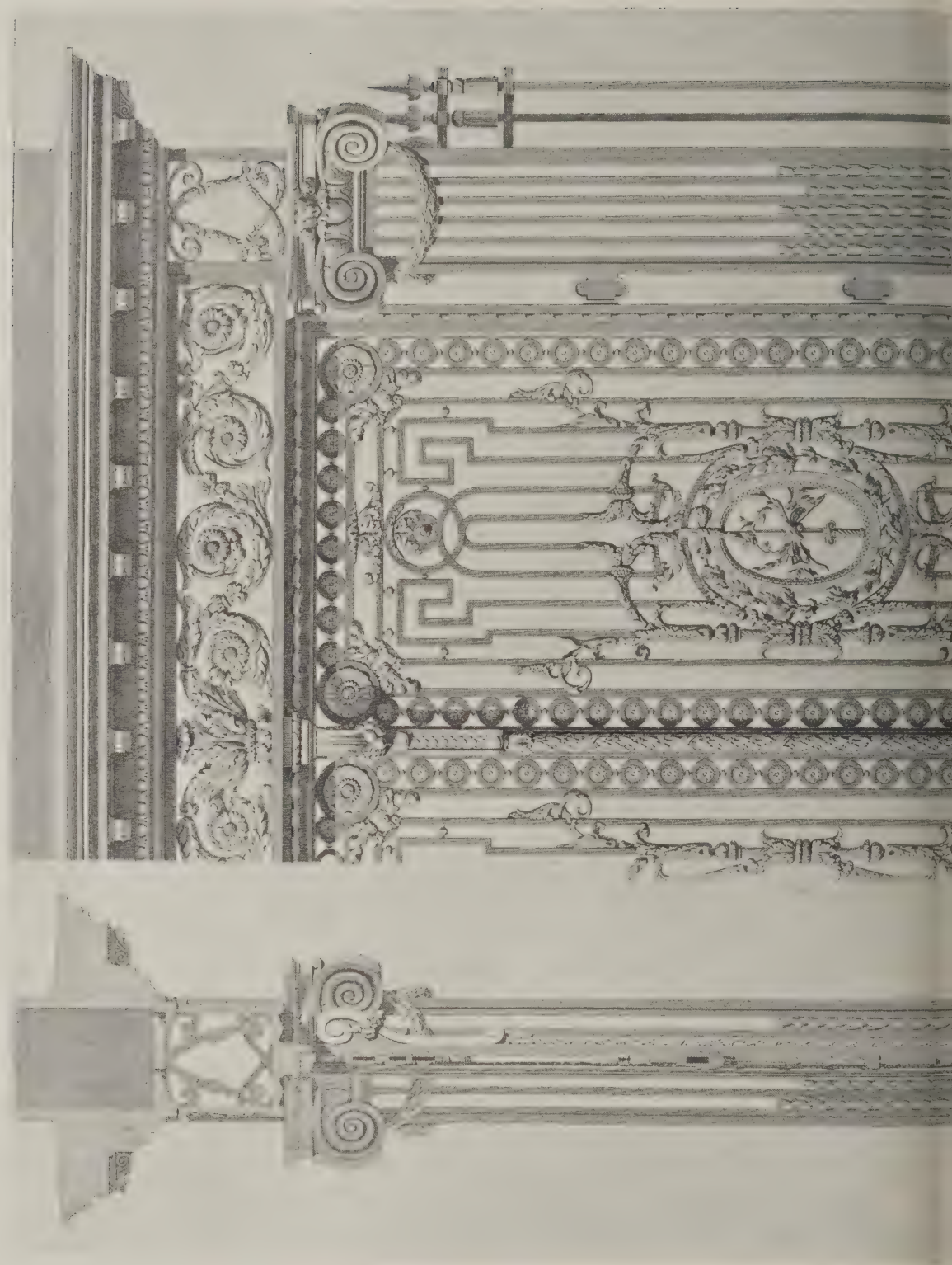
Wednesday, April 21, 3 p.m.—Visit of the Concrete Institute.

GENERAL VIEW OF THE EXHIBITION.



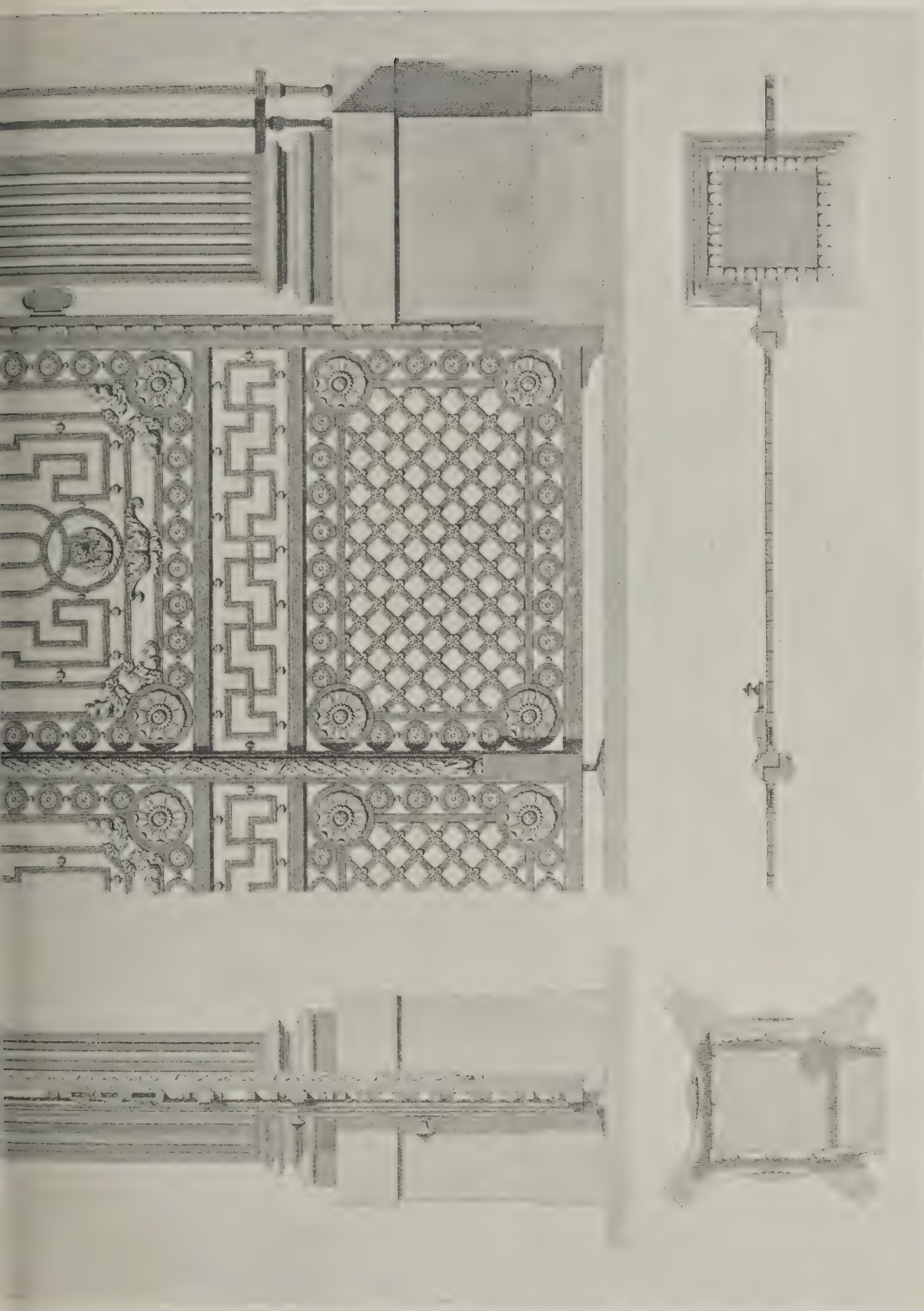
BUILDING TRADES EXHIBITION, OLYMPIA. KEY PLAN TO STANDS AND EXHIBITORS

For a Key to Trade Names of Exhibits, showing at what stands they are to be found, see pages 487 and 488. The Stand of Technical Journals, Ltd., is No. 82.



French Metalwork. 13.—Gates to the Cour d'Honneur, Palais de Justice, Paris (Louis XVI. period).

By Bigonnet



These famous gates, belonging to the screen which encloses the courtyard of the Palais de Justice, Paris, are among the finest productions of Louis Seize smithery. The screen itself, like that of the Petit Trianon, is formed of simple bars with tasselled spear heads, but the gates are of rich and beautiful design. The whole work was completed at a cost of 200,000 livres. Our illustration is from César Daly.

Key to Trade Names of Exhibits

select list of Trade Names will be found exceedingly useful in tracing the specialities (which are here given in alphabetical order) to their vendors, whose names and stand numbers are appended.

A

me Tile: Colthurst Symons and Co., , J 177.

ligator Asbestos Slates, Wall and ng Sheets: British Roofing Company, ı.

ıchor Block Making Machine: Henry e, E 78.

ıti-Cyclone Revolving Door: Samuel ɔtt and Sons (Reading), Ltd., J 174.

ıti-Hydro Waterproofing Specialities: Adamite Company, Ltd., Bay 24a.

·kalac Enamel: Robert Kearsley and Ltd., H 151.

ɔbestone Plain and Corrugated Sheets: sh Uralite Company (1908), Ltd., ı.

ɔbestilite Asbestos-Cement: British rite and Asbestilite Works, Ltd., E 73.

urora Distemper: The Torbay and t Paint Company, Ltd., G 121.

B

ardsley Door Check and Spring: tlefold and Sons, Ltd., F 98.

eacon Boilers: Hartley and Sugden, ., C 33.

eaver Board: The Beaver Board Com- y, Ltd., E 87.

elfast Lattice Girder Roof: D. Ander- and Son, Ltd., G 124.

ewty Expanding Barless Fire-Front: Interoven Stove Company, Ltd., 97.

itmarin Bituminous Specialities: The ımer and Trinidad Lake Asphalte Com- y, Ltd., Bay 16.

itubond Building Composition: G. M. lender and Co., Ltd., D 64.

itusol Paint: G. M. Callender and Co., ., D 64.

ricktor Reinforcement for Brickwork: nson's Reinforced Concrete Engineer- Company, Ltd., H 142.

ridgewater Pattern Spraying Machine: ur Oaks Spraying Machine Company, 5 and 26.

ungalow Cooker: The Richmond Gas ve and Meter Company, Ltd., H 137a.

C

.D.L. Machine for Building Concrete alls: Concrete Dwellings, Ltd., B 10.

allendrite Sheeting and Dampcourse: M. Callender and Co., Ltd., D 64.

aloric Pipeless Furnace: The Monitor ve Company, K 190.

arrara Ware: Doulton and Co., Ltd., 148.

ement Gun: Ingersoll-Rand Company, 16.

esalith Building Block: The Chemical d Technical Research Syndicate, Ltd., 116a.

larmo Jointless Flooring Composition: e Leeds Fireclay Company, Ltd., G 123.

ombyn Coal and Gas Fire: McDowall even and Co., Ltd., B 13.

osmos Metallic Filament Lamps: The etropolitan-Vickers Electrical Company, d., D 71 and 72.

overine White Undercoating: Walter arson and Sons, K 192.

ristol-Glass: J. A. King and Co., F 96.

ottage Combined Boiler Stove: McDowall Steven and Co., Ltd., B 13.

rocodile Dampcourse: National Roofings, Ltd., B 9.

roid Liquid Glue: The Improved Liquid Glues Company, Ltd., D 58.

uteline Preservative Compound: Bristowe and Co., Ltd., Bay 12.

D

arby's Patent Tip-Up Bath: The Patent Tip-Up Bath Company, B 24a.

aydawn Taps, Ball-valves, and Flushing Tanks: J. Jackson, Ltd., K 201.

evon Fires: Candy and Co., Ltd., G 133.

eytol Distemper: Pinchin, Johnson and Co., Ltd., G 127.

omus Boiler: Hartley and Sugden, Ltd., C 33.

oric Systems of Construction: Modern Building Company, J 173.

readnought Cabinets: Dreadnought Fireproof Doors, Ltd., A 3.

ri-crete Blockmaking Machine: Stothert and Pitt, Ltd., C 41.

uplex Boiler: Hartley and Sugden, Ltd., C 33.

urateg Sanded Roofing: Graves and Co., Ltd., E 83.

uroid Smooth-faced Roofing: Graves and Co., Ltd., E 83.

E

agle Gas Range: John Wright and Co., H 137b.

co Combination Boiler and Cooker: R. Jenkins and Co., Ltd., L 212.

dwardian Chimney Pot: Fawcett Construction Company, Ltd., J 164.

mdeca Metal Tiles: Emdeca Metal Decoration Company, Ltd., H 143a.

mero Liquid Glue: The Improved Liquid Glues Company, Ltd., D 58.

mpire Firedoors: Dreadnought Fireproof Doors, Ltd., A 3.

nameelac White Enamel: Lewis Berger and Sons, Ltd., F 105.

ndelline Gloss Enamel: Thos. Parsons and Sons, G 118.

ternit Sheets: G. R. Speaker and Co., G 132.

ureka Hand Vibrator: Henry Wilde. E 78.

verite Asbestos-Cement: British Everite and Asbestilite Works, Ltd., E 73.

xe Patent Hoist: Builders' and Contractors' Plant, Ltd., Bay 21.

xmet Brickwork Reinforcement: The Expanded Metal Company, Ltd., G 134.

F

armer de Luxe Spraying Machine: Four Oaks Spraying Machine Company, B 25 and 26.

erret Lockfast Patent Joint: Cakebread, Robey, and Co., Ltd., C 47.

erro Glass: J. A. King and Co., F 96.

errolithic Cement Concrete Surface Hardener: Building Products, Ltd., E 77a

erodo Patent Stair Treads: Ferodo, Ltd., J 158.

erro-Rok Corrugated Sheets: D. Anderson and Son, Ltd., G 124.

iberlic Wallboard: Macandrews and Forbes, Ltd., D 66.

ilocol Distemper: The Gelatinous White Company, Ltd., C 34.

ibrent Asbestos Cement Slates and Flat and Corrugated Sheets: British Fibrocement Works, Ltd., E 85.

lexoid Curtain Rod: The J.M. Curtain Rod Company, H 140.

lorence Patent Boiler Grate: The London Warming and Ventilating Company, Ltd., L 211.

G

elesco Ceiling Distempers: The Gelesco Paint Company, Ltd., B 30.

lasso Specialities and Paint Remover: The Glasso Manufacturing Company, D 70.

reaseproof Sinks: Staines Kitchen Equipment Company, Ltd., E 75.

un Rung Builders' Ladders: Drew, Clark, and Co., Diamond Ladder Works, K 188.

H

ardfast Water Paint: E. C. Burroughs, Ltd., Bay 25.

ayter Patent Cam Lever, Hayter, Ltd., B 22.

eatanbake Boiler: Hartley and Sugden, Ltd., C 33.

eolin Paints, Enamels, Stains, and Varnishes: Hadfields (Merton), Ltd., E 81.

ermetex Waterproof Compound: George Farmiloe and Sons, Ltd., J 180.

erringbone Lath: Self-Sentering Expanded Metal Works, Ltd., E 86.

urry Water Heater: Hurry Water Heater Company, B 24.

ygeia Flat Finishes: Pinchin, Johnson and Co., Ltd., G 127.

I

deal Domestic Water Softener: Tuke and Bell, Ltd., D 60.

deal Window: The Zeta Wood Flooring (1910) Company, Ltd., B 27a.

sol Glue Cement: The Improved Liquid Glues Company, Ltd., D 58.

ronclad Circulator: The Richmond Gas Stove and Meter Company, Ltd., H 137a.

ronite Brand Cement and Cement Waterproofing Preparations: The Ironite Company, Ltd., F 93.

K

alor Hot Water Supply Boiler: R. Jenkins and Co., Ltd., L 212.

apitia Varnish: Robert Kearsley and Co., Ltd., H 151.

eystona Oil Flat Paint: Heffer, Scott, and Co., Ltd., H 138.

ing Blocks, Slabs, and Composition Flooring: J. A. King and Co., F 96.

ing Ferro-Concrete Glazing Bar: J. A. King and Co., F 96.

irk Block Maker: R. H. Kirk and Co., B 11.

ooksjoie Anthracite Range: The London Warming and Ventilating Company, Ltd., L 211.

L

Lattice and Keedon System of Reinforced Concrete Construction: Johnson's Reinforced Concrete Engineering Company, Ltd., H 142.

Leatherite Roofing Felts: Vulcanite, Ltd., E 89.

Ledkore Dampcourse: G. M. Callender and Co., Ltd., D 64.

Lion Patent Range: McDowall, Steven and Co., Ltd., B 13.

Lion Roofing: F. McNeill and Co., Ltd., J 168.

Lithocrete Mastic Asphalte: The Limmer and Trinidad Lake Asphalte Company, Ltd., Bay 16.

Lithofalt Paving Blocks: The Limmer and Trinidad Lake Asphalte Company, Lad., Bay 16.

Litholeine Flat White Japan: Walter Carson and Sons, K 102.

Lyn Boiler: The Richmond Gas Stove and Meter Company, Ltd., H 137a.

M

Marmo Terra Cotta: The Leeds Fireclay Company, Ltd., G 123.

Masticon Repair Compound for Leaky Roofs: The Farringdon Works and H. Pontifex and Sons, Ltd., E 80.

Matone Flat Oil Paint: Lewis Berger and Sons, Ltd., F 105.

Maurice's Porceline: Walter Carson and Sons, K 192.

Metacon Patent Glazing Bar: Metacon Patent Glazing Bar Company, Ltd., J 182.

Mexphalte Bitumen: The Anglo-Mexican Petroleum Company, Ltd., Bay 9.

Minerva Paint: Pinchin, Johnson and Company, Ltd., G 127.

Mon'lithcrete Steel Joists: Fawcett Construction Company, Ltd., J 164.

Moonstone Illuminating Glassware: Underwood (Manchester), Ltd., K 198.

Municipal Boiler: Hartley and Sugden, Ltd., C 33.

Muraline Washable Water Paint: Walter Carson and Sons, K 192.

N

Nautilus Gas Fire Flue: The Davis Gas Stove Company, Ltd., G 137.

New Rex Mortising Machine: Wilson Bros., B 8.

O

Okin-Vash Paint Cleaner: C. A. Peters, Ltd., D 67.

Orbis Fanlight Opener: Nettlefold and Sons, Ltd., F 98.

Oriole Incandescent Burner: E. C. Burroughs, Ltd., Bay 25.

Osho Hot Water Supply Boiler: R. Jenkins and Co., Ltd., L 212.

Owens Patent Tank: The Economic Hot Water Supply Company, F 115.

P

Paragon Tiles: Colthurst, Symons and Co., Ltd., J 177.

Parax Paint and Paripan Enamel: Paripan, Ltd., H 143.

Perfecta Bath Geysers: The Davis Gas Stove Company, Ltd., G 137.

Plastaleke Asbestic-Bitumen Cement: G. M. Callender and Co., Ltd., D 64.

Peterlineum Wood Preservative: C. A. Peters, Ltd., D 67.

Pluvex Roofing Felt: The Ruberoid Company, Ltd., G 129.

Protex Damp Resister: G. M. Callender and Co., Ltd., D 64.

Prufit Cement Waterproofing Paste: Building Products, Ltd., E 77a.

Pudlo: Kerner, Greenwood and Co., Ltd., C 45.

R

Racephas Stone Roofing: Roberts, Adlard and Co., F 104.

Reliance Lead and Bitumen Dampcourse: Vulcanite, Ltd., E 89.

Reliance Sectional Boiler: Hartley and Sugden, Ltd., C 33.

Rencrete Damp-proof Stains: The Torbay and Dart Paint Company, Ltd., G 121.

Rexilite Roofing: Vulcanite, Ltd., E 89.

Richmond Geysers, Wash Boilers, and Silent Gas Fires: The Richmond Gas Stove and Meter Company, Ltd., H 137a.

Rigifix Bolt Hanger Sockets and Slotted Insets: Building Products, Ltd., E 77a.

Rok Roofing: D. Anderson and Son, Ltd., G 124.

Roll Concrete Mixer: Builders' and Contractors' Plant, Ltd., Bay 21.

Roneo Steel Furniture: The Art Metal Construction Company, Ltd., G 126.

Ronuk Sanitary Polish: Ronuk, Ltd., F 100.

Rooferite Felt: G. M. Callender and Co., Ltd., D 64.

Ruberoid Roofing and Damp-Course: The Ruberoid Company, Ltd., G 129.

Rublino Tiling: The Leyland and Birmingham Rubber Company, D 57.

Ruscora Matt Wall Finish: Fawley and Coyle, Ltd., J 160.

S

Sanador Felt: D. Anderson and Son, Ltd., G 124.

Satinette Enamel: Pinchin Johnson and Co., Ltd., G 127.

Savile Boiler: Hartley and Sugden, Ltd., C 33.

Scaffixer Lashings, Blocks, Chains, Spanners, and Brackets: The Patent Rapid Scaffold Tie Company, Ltd., D 68.

Self-Sentering Metal Reinforcement: Self-Sentering Expanded Metal Works, Ltd., E 86.

Semesco Washable Distempers: The Gelesco Paint Company, B 30.

Sevres Enamel: Essex and Co., Ltd., G 191.

Sideroleum Wood Preservative: W. Anderson and Son, Ltd., G 124.

Siegwart Floor: Siegwart Fireproof Floor Company, Ltd., A 1

Slagbestos Patent Slagwool: F. McNeill and Co., Ltd., J 168.

Smith Hand Mixer: Stothert and Pitt, Ltd., C 41.

Solignum Wood Preservative Stain: Major and Co., Ltd., F 95.

Sovereign Ranges: Smith and Wellstood, Ltd., L 207.

Standard Smoke Testing Machine: Cakebread, Robey and Co., Ltd., C 47.

Stenhouse Range: Carron and Co., K 191.

No. 2 Stoniflex Felt: D. Anderson and Son, Ltd., G 124.

T

Tarmac Concrete Building Blocks: Tarmac, Ltd., Bays 4 and 5.

Tarrixo Tar Compound: The Yorkshire Road Tar Binders, Ltd., Bay 8.

Tarvia: Bristowe and Co., Ltd., Bay

Tectite Sanded Roofing: Graves a Co., E 83.

Thistle Plaster Board: R. G. Ward a Co., Ltd., J 166.

Times Drain Testing Plug: Cakebre Robey and Co., Ltd., C 47.

Trellit System of Building: G. Speaker and Co., G 132.

Trisec Spiral Bond Bars: The Improv Twisted Steel Bar Company (1919), Lt B 4.

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U

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Utod Patent Door: The North of Er land School Furnishing Company, Lt E 74a.

V

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Velvarine White Japan: Walter Cars and Sons, K 192.

Venesta Ply Panels and Parquet Flo ing: Venesta, Ltd., E 86a.

Veribest Roofing: G. M. Callender a Co., Ltd., D 64.

Veritone Scumble Stains: Pinchin, Jo son and Co., Ltd., G 127.

Victor Gas Boilers: Thomas Potterto D 62.

Victoria Concrete Mixers: Stothert a Pitt, Ltd., C 41.

Vinculum Concrete Building Block Tarmac, Ltd., Bays 4 and 5.

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C3 White Rose Cast Iron Section Boiler: Hartley and Sugden, Ltd., C 33.

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The Exhibits Described

ANDY AND CO., Ltd., Row G, Stand 133.

FIRES AND WALL TILING.

"Devon" fires are exhibited in a nber of entirely new designs with ious glazed effects. "Devon" fires special designs suitable for artizan's ellings form another feature of the ductions of the firm. Specimen wall ng is also exhibited, together with a ge of samples showing their antique cts in tiles for fireplaces.

Address: 87, Newman Street, Oxford eet, W.1. Works: Heathfield, Devon. lephone: Museum, 1358.

. W. LANGHAM, Ltd., Row D, Stand 65.

COMPOSITION FLOORING.

Various types of composition flooring of ious colours are shown suitable for ops, bath rooms, railway carriages, rk rooms, etc.

Address: Shaftesbury Road, East Ham.

"ECONOMIC" HOT WATER PPLY COMPANY, Row F, Stand 115.

HOT WATER SYSTEM.

The company are exhibiting the Owens" patent hot water system, hich is claimed to have no complicated rts to get out of order. The "Owens" tent tank is also shown.

Address: Pontardawe, Glam.

ENESTA, Ltd., Row E, Stand 86a.

FLOORING AND PANELLING.

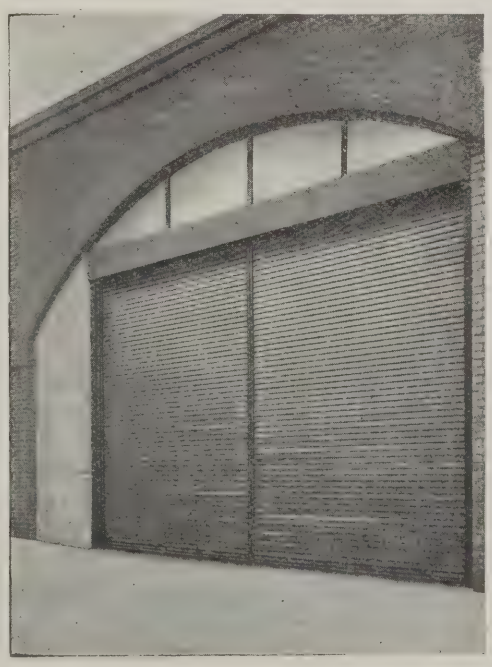
The exhibit includes the company's ply nels and period panelling for boardoms, billiard rooms, halls, libraries, ning rooms, etc. Parquet floorings are so shown.

Address: 1, Great Tower Street, E.C.3. elephone: London Wall 4760.

THE ANAGLYPTA, LINCRUSTA, LIGNOMUR, AND CAMEOID BRANCHES OF THE WALL PAPER MANUFACTURERS, Ltd., Row E, Stand 74.

The firm show relief ornament, in various periods, for the decoration of walls and ceilings, etc. Also Lincrusta Wainscoat oak panelling and glazed tile decorations.

Address: Showrooms, 1, Newman Street, London, W.1. Telephone: Gerrard 3769.



ROLLING SHUTTER CONSTRUCTED BY THE ART METAL CONSTRUCTION CO., LTD.

EWART AND SON, Ltd., Row K, Stand 186.

SANITARY FITTINGS.

On this stand are to be seen various designs of geysers; a patent basin bath; nickel-plated bathroom fittings and toilet requisites; pedestal lavatory stands, and a patent cowl for smoky chimneys.

Address: 346, 348, and 360, Euston Road, London, N.W.1.

XELITE PLASTER COMPANY, Ltd., Row H, Stand 153.

XELSTONE.

This stand displays Xelstone, an artificial stone applied like ordinary plaster for internal and external work, lending itself especially for decorative work, mouldings and castings. Xelite plaster is also shown.

Address: 56, Buckingham Gate, S.W.1.

DREW, CLARK AND CO., Row K, Stand 188.

BUILDERS' LADDERS.

The exhibit of this company includes their patent builders' and decorators' ladders; barrows, fire escapes, trestles, etc.

Address: Diamond Ladder Works, Leyton, E.10; and 9, Waterloo Road, S.E.1.

THE ART METAL CONSTRUCTION COMPANY, Ltd., Row G, Stand 126.

Steel furniture, including steel desks, adjustable shelving, counters, vertical letter files, steel doors, partitions, and roller shutters show how it is possible to make a building fire-resisting by the entire elimination of wood, and, if desired, the sub-division into fireproof sections.

The specimens of work exhibited show that it is possible to follow architects' own designs carrying out any treatment desired. All details are extremely well carried out,

and the edges of all mouldings are claimed to be clean and true.

The steel door exhibited is of hollow construction with air chambers, and consequently very light. The door has passed the very severe tests of the British Fire Prevention Committee, and has been passed and accepted by the London County Council, and Fire Offices Committee.

Address: 5-11, Holborn, E.C.

BRITISH URALITE COMPANY, (1908), Ltd., Row E, Stand 21.

FIREPROOF SHEETING.

A wood-framed building is shown covered with Asbestone plain and corrugated sheets, and roofed with Asbestone tiles and lined with waterproof Uralite.

Address: 8, Old Jewry, London, E.C.2.

C. A. PETERS, Ltd., Row D, Stand 67.

WOOD PRESERVATIVE.

A wooden pavilion, treated with "Peterlineum" wood preservative, Okin-Vash paint and fabric cleaner, is exhibited.

Addresses: Derby; 116, Newgate Street, London, E.C.1; and 8, Crook Street, Liverpool.

HOMAN AND RODGERS, Ltd., Row F, Stand 110.

FIREPROOF FLOORING.

Messrs. Homan and Rodgers, Ltd., system consists in the use of a course of specially designed hollow fireclay bricks having a flat soffit, thus obviating all thrust on the outer walls; these bricks take a bearing on the bottom flange of steel joists 18 in. or 2 ft. apart, and protect the steel. The upper surface of these bricks is serrated, and the joints also being wedge-shaped afford a good key for the bed of fine concrete, with which the space above is filled in up to the top of the joists, making the total depth of the finished floor 6 to 9 in. The soffits of the bricks are specially prepared to serve as a key for the plaster ceiling beneath. The cost varies according to span and load.

Address: 17, Gracechurch Street, E.C.

HADFIELDS (MERTON), Ltd., Row E, Stand 81.

VARNISHES AND JAPANS.

Practical applications are shown of "Heolin" paints, enamels, and varnishes and other specialised paint products. The stand is of Chinese design and colouring, and the finish obtained illustrates the claims made for "Heolin" products. The exhibit includes examples of "Heolin" gloss and flat enamel in white and colours. Quick-drying enamels for brushing and spraying. "Heolin" zinc paint (non-poisonous) for inside use. "Heolin" zinc lead paint for outside use. "Heolin" stains and varnishes. Filling-up compositions for wood and iron. And other finishes of interest to the painter and property owner.

Address: Western Road, Mitcham, Surrey, and 63, Regent Street, W.1.

UNDERWOOD (MANCHESTER), Ltd., Row K, Stand 198.

ILLUMINATING GLASSWARE.

On this stand is exhibited the Moonstone illuminating glassware. This glassware is of Canadian manufacture throughout, consisting of lighting units for indirect lighting. It is neither opaque, like ordinary white or milk glass, nor transparent like crystal glass, but is between the two, and when lighted exhibits a uniform luminous appearance diffusing

MOONSTONE ILLUMINATING GLASSWARE.

the light in a manner very restful to the eyes, and at the same time losing an extremely small amount of illuminating power of light. It does not colour the light in the slightest degree, but softens it in a way closely resembling daylight.

For half-watt lamps it is an important system of illumination, and is suitable for either private house work, industrial, commercial, or public lighting.

Address: 53, Brown Street, Manchester.

TECHNICAL JOURNALS, Ltd., Row E, Stand 82.

ARCHITECTURAL PUBLICATIONS.

The company exhibit their various architectural and fine art publications. All our publications, a selection of which are as follows, may be inspected, and all volumes purchased during the Exhibition will be sent post free:—

"Architectural Water Colours and Etchings of W. Walcott," price £3 3s. net.

"Small Houses of the Late Georgian Period," price £1 1s. net.

"Houses for Workers," price 7s. 6d. net.

"Garden City Houses and Domestic Interior Details," price 7s. 6d. net.

"Recent English Domestic Architecture," 3 vols., price 10s. 6d. each net.

"French-English Glossary of Architectural and Building Trade Terms," price 1s. net.

"The Architects' Library of Plates," 7 portfolios, 7s. 6d. each net.

"Practical Notes for Architectural Draughtsmen," price £1 1s net.

"Standard Examples of Architec Details," price 10s. 6d. net.

"Practical Exemplar of Architecti 5 vols., £1 1s. each, net.

"Some Famous Buildings and Story," price 5s. net.

"Etchings of Piranesi," 2 vols., 3s. 6d. each net.

"Liverpool Architectural Sketchbo Vols. II. and III., price 5s. each, Vol. IV., price 10s. 6d. net.

"English Ecclesiastical Architec price 6s. 6d. net.

Chronological History of British A tecture," price 15s. 6d. net.

"Specification for Architects, Engi and Contractors," price 5s. net.

"The Architectural Review," mon price 2s. 6d. net.

"The Architects' Journal," we (Wednesday), price 6d. net.

Address: 27-29, Tothill Street, West ster, S.W.1. Telephone: Victoria 69

CHANNELLO CONCRETE C STRUCTION COMPANY, Row Stand 111.

CONCRETE BLOCKS.

This company exhibits a concrete cot built on the Channello system, showing use of Channello concrete blocks for w floors, and roofs. This construction been approved by the Ministry of He for use in State-aided housing sche Two block-making machines are also b exhibited, a hand machine and a la power-driven machine, both in operati

Address: 8, Warwick Court, Gray's W.C.1.

TELLA CAMERA COMPANY, Ro Stand 38.

PHOTOGRAPHY.

The Tella Camera Company are official photographers to the Exhibi They are specialists in photography block-making for the building and gineering trades. A staff of expert o tors are at the stand throughout the hibition to photograph for exhibitors the Press.

Address: 1, Southampton Row, W Telephone: Museum 3708 and 3709.

OUR OWN STAND AT THE EXHIBITION.

STAND OF MESSRS. ROBERT KEARSLEY & CO., LTD.

WILLESDEN PAPER AND CANVAS WORKS, Ltd., Row F, Stand 97.

SLATE UNDERLININGS.

On this stand are demonstrated the principal uses of Willesden paper as underlining and underslating. On one end of the stand are shown Willesden paper underlining on boards, and on the other side are shown the Willesden paper underlining under slates or tiles. The one side shows the open rafters and the uses to which the paper is put to ensure weatherproof and waterproof results. It is claimed that even if a slate blows off yet the roof is protected and water cannot get through.

A light green paper in 2-ply and 1-ply is shown, which can be used for panelling or for building purposes, or for stenciling. It is used as stencil plates. Well-known makes of Willesden canvas are shown in various qualities, and attention is called to the models of tents and tenting in well-known and standardised designs.

Address: Willesden Junction, London, N.W.10.

WALTER CARSON AND SONS, Row K, Stand 192.

PAINTS.

The firm are making a special feature of showing the different covering power and the effect of each successive coating of their various manufactures on panel doors and sections, which not only illustrates the finished painted surface, but shows how, step by step, that finish has been obtained.

Address: Battersea, London, S.W.11. Telephone: Battersea 1630 and 1631.

THE MONITOR STOVE COMPANY, Row K, Stand 190.

CENTRAL HEATING.

The Caloric pipeless furnace exhibited is a system of central heating, for residences of from one to eighteen rooms, and for churches, cinemas, and shops. The basic principle of this system is circulating warm air. No pipes or radiators are used.

The Caloric is claimed to have been pronounced efficient by over 76,000 users in the United States, Canada, and Alaska; it has been warming homes in the New World for over ten years.

Address: 9, Victoria Street, S.W.1. Telephone: Victoria 4661.

STURTEVANT ENGINEERING COMPANY, Ltd., Row E, Stand 83a.

VACUUM CLEANERS.

These exhibits consist of the Sturtevant turbine vacuum cleaning plants for hotels, restaurants, clubs, cinemas, theatres, shops, large houses, etc. The plants are built in a number of sizes, from the small domestic portable cleaner for one person to operate, up to the largest stationary plant (for buildings of all types) to accommodate sixteen or more operators at work at the same time. The machines shown are as follow:—

Sturtevant 8 h.p. type "B" Turbo-Exhauster, with dust separator. 3-4 h.p. portable workshop type cleaner. This machine is also used as a stationary plant by mounting it on a concrete base and installing piping throughout the building. (This can be seen in operation.) No. 5 type ½ h.p. portable turbine electric suction cleaner. This is claimed to be a rapid and thorough portable cleaner, with a small power consumption. Ventilating fans for ventilating plants in all classes of buildings are also shown.

Address: 147, Queen Victoria Street, London.

R. G. WARD AND CO., Ltd., Row J, Stand 166.

LATHING.

The exhibits at this stand show "Thistle" plaster board, an improved lathing material for sound-deadening, and fire-resisting. It is stated to speed construction and save labour and material in plastering.

Address: 5, Laurence Pountney Hill, Cannon Street, London, E.C.4.

W. PATTISON (or SUCESSORS), Row B, Stand 31.

ROOFING, SHEETS, AND SLATES.

Exhibit corrugated roofing sheets, made and cured by improved processes, and

STAND OF MESSRS. ASPINALL'S ENAMEL, LTD.

STAND OF THE KLEINE PATENT FIRE-RESISTING FLOORING SYNDICATE, LTD.

formed by newly patented improved machinery. The firm claim that cracked or strained sheets are impossible, and that the deep corrugations and absolute uniformity of making and maturing, ensures the greatest possible ultimate strength. Flat building and panelling sheets are also shown, which are specially cured to obtain strength, density, and elasticity.

Asbestos cement slates. All patterns and in a good range of colours and sizes: in high-class material.

Address: Widnes, Lancs.

THE BEAVER BOARD COMPANY, Ltd., Row E, Stand 87.

WOOD FIBRE WALL BOARD.

Beaver board is a pure wood fibre wallboard, which may be used for constructing and finishing walls, ceilings, and partitions in new or remodelled buildings of every type. Beaver board is stated to be made exclusively of selected woods reduced to fibrous form and pressed into panels of three-sixteenths of an inch in thickness, in widths, 36 in., 48 in.; and lengths, 8 ft., 9 ft., 10 ft., 12 ft., 14 ft., and 16 ft. The panels are nailed direct to the studding and ceiling joists, and are easily fixed to brick or concrete walls by the use of splines. The surface of the panels can be finished with oil or water paint, or distemper, and the joints covered with moulding strips to complete the panel effect. The decorative possibilities of Beaver Board are exhibited in a finished room, and also the method of fixing in a practical manner.

Address: 4, Southampton Row, London, W.C.1.

"THERMOS" FLOORING COMPANY, Ltd., Row B, Stand 23.

JOINTLESS FLOORING.

The exhibits include "Thermos" floors; jointless, hygienic, composition floors. "C" thermos; a non-magnesite, jointless, waterproof, hygienic floor.

Addresses: Glasgow. London Office, Bridge Chambers, 171, Queen Victoria Street, London, E.C.4.

WAYGOOD-OTIS, Ltd., Row F, Stand 106.

LIFTS.

Messrs. Waygood-Otis, Ltd., have installed one of their electric passenger lifts to convey visitors free of charge to and from the gallery. This lift is arranged for dual control by car switch, with attendant in the car, and automatically, without attendant, by push buttons in the car. The change-over switch is fitted to the machine. The car is of up-to-date design constructed in steel and glass. The wrought iron enclosure work illustra one of the many designs that can arranged. Two different forms of po tion indicators are shown. Other hibits include the Waygood-Otis electr lift, consisting of direct-acting r beneath platform, operated by patent pump coupled to electric motor and el trically controlled; models of Waygo Otis hand lifts operated by endless ro and hand rope respectively, a model of Waygood-Otis automatic electric p senger lift, and various smaller iter such as the rope grip, W.I. top hu gate, sample automatic locks, car swi pushes, and bell indicator.

Address: Falmouth Road, Great Do Street, London, S.E.1.

THE IMPROVED TWISTED STE BAR COMPANY, Ltd., Row B (Gallery), Stand 4.

TIE BARS.

The exhibitors claim that "Trise spiral bond bars can be used in every s of reinforced concrete structure, and t by virtue of their special qualities effect actual reduction of 30 per cent. in weight of steel used.

Address: 28, Victoria Street, S.W.1.

THE ASSOCIATED PORTLAND CEMENT MANUFACTURERS, L THE BRITISH PORTLAND CEME MANUFACTURERS, Ltd. MESSRS. MARTIN EARLE AND C Ltd. THE WOULDHAM CEMENT COMPANY, Ltd., Row F, Stand 103

CEMENTS.

The exhibit consists of:

Samples of the companies' Portla cement.

Cement at various stages of its ma facture.

Samples of cement ground to vari degrees of fineness.

Neat and sand briquettes of various a for testing tensile strain.

Cubes of various ages and mixtures testing crushing strain.

Aggregates of various description, b suitable and unsuitable for mixing w Portland cement.

STAND OF MESSRS. ROBERT JOHNSON & CO.

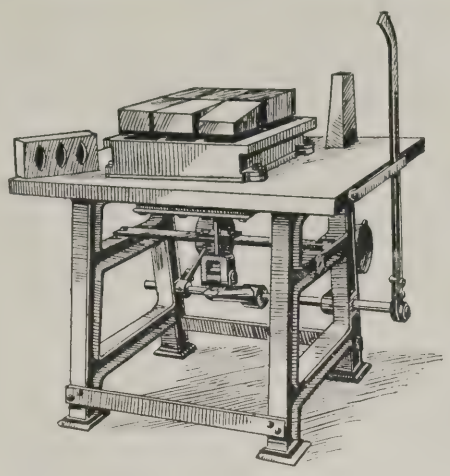
VICKERS, Ltd.; Row D, Stands 71 and 72.

CONCRETE BRICK AND TILE MACHINES.

Messrs. Vickers, Ltd. (Building Department), are showing a portable concrete brick machine for hand power, to make six bricks at a time. These machines are designed to make concrete building bricks of the standard British or Continental dimension, plain or coloured. Any thickness of brick, and all types of fancy goods, arch bricks, floor tiles, etc., may be made without additional apparatus. The concrete partition slab machine makes slabs of varying thicknesses from 2 in. to 4 in. (5.1 to 10.2 cm.). Hollow or solid slabs for partitions or external walls may be made on these machines with square edges or with grooved and tongue joint. The Vickers-Cobbs block machine produces blocks, hollow or solid, on the face-down system. A range of 2,000 different sizes and shapes of blocks can be produced, and by special face plates it is possible to obtain the same natural effect as that produced by dressed stone.

A concrete interlocking roofing tile machine shown consists of a light portable plant for producing interlocking roofing tiles of any desired colour or surface. Each machine is fitted with an apparatus to apply an even coat of cement colour to the face of the tile, which is applied dry and trowelled into the surface. A selection of standardised doors, windows, gates, and dressers now being produced in their factory for supplying the building trade are also exhibited.

Another exhibit by Messrs. Petters, Ltd., and Vickers-Petters, Ltd., consists of a Petter junior electric lighting set, comprising a Petter junior engine manufactured by Petters, Ltd., of Yeovil, coupled to a 2¼ K.W. Metropolitan-Vickers dynamo, generating current at fifty volts. The set starts on a small quantity of petrol, changing over automatically to paraffin. On this stand there are displays by Messrs. W. T. Glover and Co., who are showing samples of their patent glazing system. The steel bars



THE VICKERS MACHINE FOR MAKING CONCRETE BRICKS.

used are passed through a bath of preservative compound, and are simultaneously sheathed with pure virgin lead applied direct to the bars by hydraulic pressure. The Ioco Rubber and Waterproofing Company, Ltd., exhibit specimens of proofed cloths and "Duck" insulated cotton, rubber tiles, hose, leather cloth, and other rubber manufactures; and The Metropolitan-Vickers Electrical Company, Ltd., have on view a large variety of electrical heating, cooking, and lighting appliances and fittings. Address: Vicker's House, Broadway, Westminster, S.W.1.

G. R. SPEAKER AND CO., Row G, Stand 132.

"TRELLIT" CONSTRUCTION.

The exhibit shows the new patent "Trellit" construction in various stages of completion. The features of the system are a light steel framework made up of channel sections bent from 16 gauge mild steel and formed into units of 8 ft. by 8 ft., with horizontal bearers made of similar 2-in. channel sections, which are filled with wood battens to which "Eternit" asbestos cement sheets are nailed and the joints covered with wood overlays. The wall and ceiling frames are made collapsible for easy transport and re-erection on the site. The roof trusses consist of 3-in. steel channels all welded throughout, spaced at 8 ft. centres with purlins of the same section spaced at 4 ft centres. The purlins are similarly filled with wood battens, to which 1-in. wood boarding is attached, and "Eternit" asbestos cement tiles fixed in the ordinary way. Both walls and roof are braced throughout, all units being automatically squared when the braces are inserted. This type of construction admits of rapid building without specially skilled labour. The system may be adapted to architects' requirements, and a selection of a number of types of buildings can be seen.

Address: 29, Mincing Lane, London, E.C.3. Telegrams: Eternitile, London. Telephone: Avenue 6546.

THE ADAMITE COMPANY, Gallery, Stand 24a.

CONCRETE HARDENER AND WATERPROOFER.

Samples are exhibited of "Anti-Hydro," a concrete hardener and waterproofer used in the States. "Anti-Hydro" dustless floors and waterproof walls are claimed to have a wide and sound reputation abroad, backed by over fifteen years' experience and yeoman service. Visitors should not fail to inspect the small model tanks made with "Anti-Hydro." The company state that although "Anti-Hydro" was only introduced into England last year it has already been specified in extensive building programmes in London, notably at the new Selfridge building, where "Anti-Hydro" was used in the retaining wall. We understand that a factory for the manufacture of "Anti-Hydro" in this country is contemplated.

Address: Regent House, Regent Street, London, W. Telephone: Mayfair 224.

ROBERT JENKINS AND CO., Ltd., Row L, Stand 212.

HOT WATER BOILER AND GAS STOVE.

The Eco combination of either a gas or an electrically fitted cooker and an independent boiler is designed to supply hot water day and night, and to provide at all times an oven pre-heated to a moderate temperature from the same fire. The one size now produced is suitable for a 20 to 25-gallon cylinder with one fixed bath and the usual draw-offs. Other sizes are in preparation. The fire may be open or closed, or a mica panel fitted to show a glowing fire when the door is closed, the top is available for boiling, toasting, grilling, etc. After doing this work the fire products are carried round the patent cooker, providing more than 50 per cent. of the heat required therein. The oven then may be brought up to the required temperature by turning on the gas or electricity for a short space, after which it may be turned off, as the boiler fire will maintain the heat thus obtained during cooking.

The total width of the apparatus is 3 ft., height 3 ft. It will fit in any ordinary chimney breast, and in new buildings it requires no brickwork. There is only one flue needed and the boiler pipe connections may readily be fitted to existing pipes. Where desired a distance piece can be fitted which forms an extension of the hot plate between boiler and cooker. The inside size of the oven is 14 in. wide by 17 in. high by 12 in. deep. Provision is made for cleaning all flues. The boiler ashes can be shaken through the grate and removed in the ashpan. There are no openings in the cooker. The oven burner

BUNGALOW ON SPEAKER'S "TRELLIT" CONSTRUCTION SYSTEM, WITH "ETERNIT" TILES.

is carried in a recess at the front, and has a swing gas hot plate with grill and rings under separate control. Fuel consumption has averaged 21 lb. anthracite nuts per twenty-four hours, and with broken coke a consumption of 34 lb. The draught may be diverted to top or to bottom.

Demonstrations are given at the Exhibition of the Eco and the Kalor supply boiler. We understand that modifications are being made to the Eco to meet the requirements of various classes of housing schemes.

Address: Rotherham and London. Telegrams: Jenkins, Rotherham. Telephone: 584. Representative: Mr. A. Seymour Smith, 62, Burnaby Gardens, Chiswick. Telephone: Chiswick 1577.

KERNER-GREENWOOD AND CO., Ltd., Row C, Stand 45.

WATERPROOFING.

This firm show their cement waterproofer "Pudlo." The exhibit consists chiefly of apparatus and models which demonstrate the practical application of "Pudlo," and comprise the following: (1) Apparatus for testing the resistance of cement permeation by water under pressure. This apparatus is similar to that in use at their works for making the daily tests. (2) Full-size section of solid concrete floor with 1 in. Pudloed cement topping. The lower edge of the concrete is immersed in water and the perfect dryness of the upper surface is proof of the power of a Pudloed topping to keep down rising dampness. (3) Short length of stoneware drain-pipe charged with water. The joints are made with three parts sand, one part of Portland cement and Pudlo. They are cheaper and more efficient than neat cement joints. (4) Water tank constructed of thin porous concrete blocks to which a ½-in. facing of Pudloed cement has been applied during the process of manufacture. It would be difficult to devise a more stringent test of the waterproof properties of Pudloed cement.

There are also shown Pudloed concrete tanks, damp-courses, etc., and details of the application of "Pudloed" cement to the cure of flooded cellars, damp walls, polluted wells, etc.

This firm is noted for the artistic merit of their advertisements, and they display some of the artists' original sketches by the following artists: Chas. Shepperson, R.A., Stephen Reid, R.E., H. M. Brock, R.I., L. R. Squirrell, R.E., Oswald Cuningham, James Guthrie, and Mrs. Nesbit.

Address: King's Lynn.

MARRYAT AND SCOTT, Ltd., Row G, Stand 135.

LIFTS.

Among the interesting examples of equipment shown is a complete electrical service lift adaptable for hotel, restaurant, or private house, shown operating under actual working conditions. The control is effected by momentary pressure of marked buttons. Safety in operation is assured by novel fitments, and this type of lift is claimed to be an economical method of raising loads up to 1 cwt. The approximate cost for current is fifty to sixty trips per 1d.

A passenger lift car, the firm's standard "Osborne" type, is exhibited to demonstrate the action of the passenger safety gear. This device, in the event of stretching or failure of the lifting ropes, automatically operates, and sustains the load by securely gripping the guide runners. The car is shown fully loaded supported by this safety gear. A range of standard controlling equipment, including safety lift locks, passenger and service type gears, and controllers are shown. The generous proportion and interchangeability of all wearing parts is an essential feature of all the components manufactured by this firm.

Address: 28, Hatton Garden, London, W.C. Telephone: Holborn 6522.

SIEGWART FIREPROOF FLOOR COMPANY, Ltd., Row A, Stand 1.

FLOORING.

A small 7½-in. Siegwart floor is shown resting on the top flange of supporting steel girders, and a 5-in. flat roof or floor over, one end resting on the concrete encasure to the supporting steel girder, and the other end resting on top of the joist. The exhibit shows that both methods are equally satisfactory from the constructional point of view, although it is also advantageous to have the joist encased, as it fireproofs same and saves head room.

Address: Thanet House, 231, Strand, London, W.C.2. Telegrams: Nocentring, Estrand, London. Telephone: Gerrard 4094.

THE WELL FIRE AND FOUNDRY COMPANY, Ltd., Row L, Stand 209.

FIREPLACES AND SANITARY GOODS.

A pavilion of Classic design has been erected in which complete mantelpiece suites offer suggestions as to how the well fire can be tastefully adapted to all types and periods of interior decoration. The fire owes its efficiency to the scientific design of the patent "well," which consists of a solid piece of fireclay in which the fire is contained, and which is provided with channels permitting air induction at the floor level. The air enters below the fire and in its passage thereto has to pass round the fireclay "well." By the time it reaches the fire the air is super-heated and in passing through the fire ignites gases from the fuel which would otherwise escape in the form of smoke, thereby giving slow combustion and an almost smokeless fire. In addition the company manufacture kitchen ranges, porcelain baths, sanitary goods, etc. These e hibits and the structure containing the were all designed in the company's studio

Address: 15, Berners Street, Londo W.1, and 16, John Dalton Street, Ma chester. Telegrams: Flotabamos, Ox London. Telephone: Museum 4548, 454

WINGET, Ltd., Row G, Stand 120.

CONCRETE BLOCK MAKING MACHINES.

On the Winget stand daily demonstr tions are given with the well-known outfi of the company. The 32 in. "Winget standard block-making machine, to seen at work, makes sufficient blocks a slabs in three and a half days for a tw storey cottage covering an area of 4 square feet. There is also on vie the smaller "Winget" pressure machin designed to meet the growing demand f concrete blocks and slabs where lig labour only is available and where t need is not so great for the wider ran of blocks produced by the 32 in. standa machine. Two men or lads can work t machine with the best results. T "Winget" system of building on the co tinuous cavity system with concrete bloc and slabs is also being demonstrate together with the "Winget" stor breaker and crusher, and the concre roofing-tile machine for manufacturi tiles. A further exhibit shown in oper tion is the "Winget" chain-spade mix for mixing semi-dry concrete. One ty of mixer is driven with the 3-h.p. benz or petrol engine, and the other by an ele tric motor.

Address: 24, Grosvenor Gardens, Wes minster.

CAKEBREAD, ROBEY AND CO., Lt Row C, Stand 47, Row K, Stands 195 and 196.

DRAIN AND TUBE CLEARING MACHINES.

A selection of their drain a tube clearing and cleaning machine including many of their most r cent improvements and manufactur among which are shown the followin

THE WINGET MACHINE FOR MAKING CONCRETE ROOFING TILES.

ıe "Ferret" lockfast jointed rod, the .deal" lockfast joint, the "Setscrew" :kfast joint, etc., ordinary brass ·ew jointed rods in various lengths and alities, malaccas, rattans, bamboo, etc., : new "Builders" sets of drain ls, the "Standard" smoke machine ronze medal, Sanitary Institute, Bel-:t), the "Eclipse" smoke machine, with without high pressure attachment, the Caroba" patent drain-testing plug, ıich has a special wheel action to en-:e easy manipulation, the "Ferret" tent spring drain cleaner for clearing ratory traps, etc., wire drain rods, drain-:ting bags, loco badgers, vacuum and ction pumps, kemps testers, sutton lead .lars, etc., etc., and sweeps rods and :kle of every description.

Address: Caroba Works, High Road, ood Green. Telegrams: Splendour, ood, London. Code: A.B.C. 5th Edi-n. Telephone: Palmers Green 635, 5, and 691.

AWPLUG COMPANY, Ltd., Row D, Stand 71.

PATENT FIBRE PLUG.

The company are manufacturers of a tent fibre plug which obviates the diffi-lties previously encountered in securing firm fixture into any material. By ·ans of a steel plugging tool, or brace and a hole can be quickly made the exact e required, and then the fibre Rawplug pushed into position ready to receive the ·ew. The plug expands as the screw is ·ned home to ensure a perfectly firm ing, and is invisible when in position. ıey are made in all sizes and lengths for : with any screw. The exhibit includes amples in which the plug can be used advantage in different materials: Con-te, cement, brick, plaster and metal, . Bathroom accessories and other :ings on tiles are also to be seen, while ·m the electrical engineering point of ·w there is a choice of features. fferent wiring systems are shown, fixed th Rawplugs on plaster, switch-board :ings on polished slate, electric light :ings on glass, marble, plaster, etc. ·ntinuous demonstrations are given ·wing how easily Rawplugs can be ınipulated.

Address: Lenthall Place, South Ken-gton, S.W.7.

ARRON COMPANY, Row K, Stand 191, and Row L, Stand 208.

OOKING, HEATING AND ELEC-TRICAL APPARATUS.

The exhibit consists of a selection of ıges, including the "New Carron," Cambrian," 411/413, No. 429, and the Beetonette"; "The Stenhouse," a new ıge for housing schemes, being shown operation; selection of high-class fire-ıce suites in several finishes, including nour-bright interiors, dog grates, and ·od chimney pieces; examples of anthra-e stoves, gas fires, and cookers; and nples of mantel registers, interiors, ıges, and baths approved by the Stan-rdisation Committee of the Ministry of ·alth. These approved samples are .ced in the special price list issued by the rector of Building Materials Supply, d are marked by the D.B.M.S. Schedule ımbers.

A considerable space on the stand is set art for the exhibition of a selection of ·ctrical cooking and heating apparatus, ıich comprises electric cookers, grills d fryers, hotplates, electric kettles, irons, d electric glue pots. In addition there : a number of models and electric fires which have been designed for ordinary domestic heating purposes. The manner in which electric heaters can be attractively fitted to existing chimney breasts is effectively shown in one typical example in the form of a complete electric fireplace.

Address: Carron, Stirlingshire, and 15, Upper Thames Street, London, E.C.4. Telephone: City 5012.

F. McNEILL AND COMPANY, Ltd., Row J, Stand 168.

ASPHALTIC ROOFING FELT.

The firm's stand shows rolls of all kinds of felts for exterior roofing, underslating, lining, and sound-deadening, etc., as used during the war for aircraft buildings, hospitals, inspection bonds, factories, huts, etc. Of particular interest is the "Lion" roofing, manufactured in rolls 24 yards x 1 yard, suitable for use in all climates. Models show the application of the "Combinite" system of roofing, as applied to flat or sloping roofs. Other models of mansard, flat, north light, and Belfast roofs are shown covered with suitable roofings. Particular interest attaches to the treatment of gutters, valley gutters, and flashings. A model shows the indestructibility of "Slagbestos," which has many uses in building construction, shipbuilding, cold storage, insulation, boiler and pipe covering, etc.

McNeill's dampcourses are supplied cut in all usual wall widths. For lining reservoirs, aqueducts, tunnels, swimming baths, miniature lakes, ponds, etc., the firm recommend their pure bitumen sheeting.

Special pattern pipe covering is also shown which is easy to apply and remove for repairs.

Address: Spencer House, 4, South Place, London, E.C.2.

THE HOLLIS WOOD TRIMMER COMPANY, Row L, Stand 204.

WOOD-WORKING MACHINERY.

The Hollis Wood Trimmer Company are exhibiting the various wood-working machines in which they specialise, viz.: (a) Hollis gap-bed wood trimmers; (b) 6 in., 8 in., and 10 in. saw tables for the small woodworker; (c) 16 in., 20 in., 30 in., and 36 in. Kingsway saw benches.

The gap-bed wood trimmer is a small machine tool for woodworking shops. The whole of the cutting edge of the knife may be used without re-grinding, and when a knife becomes worn at one part a fresh portion of the cutting edge can be brought up to the work. On the "Hollis" wood trimmer a canting table can be fitted, which enables a mitre to be cut the whole length of the stroke of the machine, viz., 17 in. There is also a device to enable compound angles to be cut on cornice mouldings.

The Company also manufacture small saw tables for the small woodworker. In the "Imperial" saw tables, the 10 in. saw table has a bed 20 x 16 inches, and is capable of cutting wood up to 9 in. wide, and the table tilts to enable grooving and small work to be done. In addition an adjustable mitre fence is provided to permit cross-cutting and angle cutting according to the user's requirements. These saw tables are miniature reproductions of the large saw benches. The 10 in. saw table weighs approximately 112 lb. The 8 in. size has a fixed table, and may be used also for cutting brass and metal strip. The 6 in. size has a rising and falling bed. These small saw tables have proved so great a success that the firm are laying themselves out to produce them in large quantities.

Kingsway saw benches afford an opportunity to the woodworker of purchasing a saw bench which serves the same purpose as the expensive rise and fall table benches. The machines are constructed to take apart for export purposes, enabling shipment to be effected at a minimum cost.

Address: Imperial Works, Jockey Road, Wylde Green, Birmingham.

JOHNSON'S REINFORCED CONCRETE ENGINEERING COMPANY, Row H, Stand 142.

REINFORCEMENTS FOR ROADS, FLOORS, ROOFS, ETC.

The Keedon and Lattice system of reinforced concrete construction is demonstrated, also the "Bricktor" reinforcement for brickwork. Attention is called to the claims made by this company of the rigid yet adjustable fixing of the stirrups and fitments to the main reinforcing bars, which has the dual advantage of forming a rigidly connected stirrup, but which can be adjusted to suit the variation of sheer stress.

Johnson's Lattice, made from high-tension steel wire, is a fabric reinforcements for roads, floors, roofs, decks, etc.

The "Bricktor" system of reinforcement for brickwork is demonstrated very effectively in cantilever walls, proving that brick walls reinforced with "Bricktor" reinforcement do not require a continuous foundation. Should uneven settlement take place in a foundation of a building reinforced with "Bricktor" there is claimed to be very little liability of cracks and damage to the walls. The lateral strength is considerable, and permits of thin walls being used.

This company has a large technical staff who would be pleased to advise architects and engineers in connection with any proposed scheme they may have under consideration.

Address: Lever Street, Manchester.

GEORGE M. CALLENDER AND CO., Ltd., Row D, Stand 64.

WATERPROOFING.

This firm exhibit their waterproofing specialities. "Callendrite" sheeting is a waterproofing medium for open and covered service and storage reservoirs, filter beds, swimming baths, lakes, ponds, etc. The exhibit shows a model reservoir with sloping sides lined throughout with "Callendrite" sheeting, which is under a water test for the duration of the Exhibition.

In the centre of the reservoir is a column of loose porous bricks under the top course of which, just above water level, is inserted a piece of "Callendrite" dampcourse for foundations. "Callendrite" is supplied in rolls 24 ft. long, cut to suit the usual wall widths up to 36 in.

"Ledkore" dampcourse, which is composed of a core of sheet lead with a special bitumen covering both sides, contains no coal tar or pitch, and is claimed to be an ideal dampcourse for all climates and purposes Special attention is directed to the complete unification of the lead core with the bitumen covering. The dampcourse is made in rolls 24 ft. long in all wall widths up to 36 in.

A wall exhibited shows the application of "Protex." One portion is treated with "Protex" applied directly on to the brick and afterwards rendered with plaster; another portion shows the "Protex" applied to plaster and papered over.

The water jets acting on the back of the wall demonstrate the effectiveness of "Protex" as a damp resister. No lathing is used to key the plaster.

"Bitusol" paint for iron and steel work of all descriptions and "Veribest" ready roofing are also shown. "Veribest" roofing is a self-finished roofing material, prepared from Trinidad lake bitumen and supplied in rolls of 1, 2, and 3 ply, complete with nails, cement, and directions for fixing. The roof of the office is covered with "Veribest" roofing showing the method of application.

"Rooferite" felt, for roofing, sarking, and lining purposes, is in rolls 15 yards long by 1 yard wide.

Insulating paper, dampproof paper for use in cold storage and building.

A model show is the application of "Bitubond" building composition to cavity wall. By pouring the composition while hot into the cavities formed by two brick or stone walls it fills the interstices in the inner wall faces, and is claimed to render the wall impervious, non-conducting, sound, and temperature proof. The composition has a large tensile and crushing strength, and adds to the strength of the walls to which it is applied.

Callender's "Plastaleke" asbestic-bitumen cement, for the rapid and easy repair of leaky roofs, may also be seen.

Address: 25, Victoria Street, S.W.1. Telegrams: Quarriable, Vic, London. Telephone: Victoria 4642.

PINCHIN, JOHNSON, AND CO., Ltd., Row G, Stand 127.

PAINTS, ENAMELS, AND VARNISHES.

This exhibit, designed on the lines of Trafalgar Square, consists of a main structure guarded by four recumbent lions and mounted with a fine classical column, which is in turn surmounted by a globe. Upon this is given a practical illustration of the actual results produced by some of the protective, finishing, and decorative materials manufactured by this firm, amongst which may be named Minerva paint, Satinette enamel, and Hygeia flat finishes. Some plaster panel screens show the soft texture and charming colour schemes of Deydol distemper. The interior of the main structure forms a room the panelling of which shows the choice effect obtained with Veritone scumble stains, whilst the doors display some samples of the various Pinchin, Johnson varnishes. There are also separate exhibits for iron paints, preservatives, lacquers, stains, etc.; in fact, applied specimens of the principal materials required by the decorative trade.

Address: General Buildings, Aldwych, London, W.C.2. Telegrams: Pinchin, Ald., London. Telephone: City 7840.

THOS. PARSONS AND SONS, Row G, Stand 118.

VARNISHES, ENAMELS, AND COLOURS.

"H.M.S. Endelline" demonstrates the practical application of the firm's enamels, paints, and varnishes, including Endelline gloss enamel, Endelflat flat enamel, Parson's undercoating body white paint, Unicote flat wall finish, and floor varnish. This old-established firm exhibits in addition a series of panels showing various paints, enamels, and varnishes suitable for the building and allied trades, and an invention, known as the Parson's colour-meter, which is said to produce any shade of colour.

Address: 315 and 317, Oxford Street, London, W.1. Telegrams: Varjap, Phone, London. Telephone: Mayfair 6347.

ASPINALL'S ENAMEL, Ltd., Row D, Stand 55.

ENAMELS, PAINTS, AND DISTEMPERS.

Aspinall's Enamel, Ltd., have erected a fibrous plaster decorated pavilion to show their different materials and colour schemes. It is constructed of eight columns with caps, bases, and enriched cornice, the centre portion being domed.

The pavilion contains a private office, lobbies, and screen, showing the various enamels, paints, and distempers manufactured by the firm.

Address: New Cross, London, S.E.14. Telegrams: Aspinall's Enamel, Nucros, London. Telephone: New Cross 42 and 208.

MACANDREWS AND FORBES, Ltd., Row D, Stand 66.

WALLBOARD.

This stand shows the interior of a modern room, the walls and ceilings of which are lined with Fiberlic and painted a delicate biscuit colour. The makers claim that once Fiberlic is erected it will last during the lifetime of the building, and this without the necessity of repairs due to wear and tear. If, however, as the result of an accident such as a burst pipe, it is found necessary to replace a portion this can be done without disturbing any other portion than the injured surface. Fiberlic can be painted, stained, enamelled, or distempered; in fact, any treatment that may be applied to wood may be equally applied to Fiberlic, which has a high resistance to fire; it can only be made to burn with difficulty. It is a good insulator, enabling a room to retain its heat in winter and keep cool during the hot months. One of the most modern uses to which it can be put is to form panels in interior doors. Fiberlic is stocked by timber and builders' merchants in most of the principal towns in the Kingdom.

Address: 2, Broad Street Place, London, E.C.2.

THE BRITISH FIBROCEMENT WORKS, Ltd., Row E, Stand 85.

ASBESTOS CEMENT SPECIALITIES.

This stand has been specially designed to illustrate the various fibrent manufactures, as follows: The south side of the roof shows the application of fibrent corrugated sheeting, and the north side is covered with fibrent red slating, which is also made in grey, blue-black, and purple shades. The external treatment of the walls and ceilings illustrates the use alternatively of fibrent flat sheeting, plain or rough-cast, scalloped sheeting, or corrugated. Internally use has been made of flat sheeting to which several finishing methods have been applied. The floor consists of fibrent flat sheets ½ in. thick, fixed direct to joists. It is claimed for fibrent products that they are economical, easily and quickly fixed, light in weight, heat and fire resisting, and do not require to be painted.

Address: Erith, Kent; and at London, Manchester, Birmingham, Bristol, and Cardiff. Telephone: Erith 89.

ARTHUR SANDERSON AND SONS, Ltd., Row F, Stand 99.

HOUSE DECORATION.

The exhibit is of the modern and artistic wallpapers and cretonnes, paints, and brushes, and all materials and accessories for house decoration. It includes leathers in a variety of shades; tekko of silk effect fabrikona, the canvas with the waterproof backing; reproductions of Japanese canvases in gold and colours; soirette, flock jaspe, and chintz papers in fast to light colours; Eton rural cretonnes in double and single widths, in unique designs and colourings; enamels, paints, distemper, and varnishes for interior and exterior use brushes to meet the decorator's every need and Sanderson's aluminium paint. Cretonnes are a speciality.

Address: 51-55, Berners Street, London W.1. Telegrams: "Derson, Ox, London. Telephone: Museum 3100.

LEWIS BERGER AND SONS, Ltd. Row F, Stand 105.

DECORATION.

Four specimen rooms in miniature are decorated in accordance with colour schemes prepared by the Berger Decorative Service, with ceilings and walls in Maton flat oil paint, woodwork in Enamelac white enamel and scumble graining colour under Berger varnish. There is a Futurist drawing-room scheme in keeping with a distinctly modern tendency which has to be taken into account by the up-to-date decorator; a Jacobean hall, a charming dining-room, and a real children's nursery. All the decorative schemes embody applied stencils from the Berger range of registered stencil designs. Apart from the four specimen rooms there is a general exhibit showing how the firm's paints and varnishes are used for finishing omnibuses, motor cars, etc. Berger materials are demonstrated on the exhibition stand daily by a practical painter.

Address: Homerton, London, E.9.

HOLOPHANE, Ltd., Row G, Stand 128

SCIENTIFIC ILLUMINATION.

The exhibit consists of a complete range of the latest forms of scientifically designed prismatic illuminating glassware for the correct light distribution and diffusion of modern electric lamps. The use of this prismatic glassware is bound up with a system known as the Holophane Scientific System of Illumination.

One of the great advantages claimed for Holophane prismatic glassware is that it is possible by means of design to obtain any type of light distribution necessary for every problem in artificial illumination enabling, with its use, lighting installations to be carried out with absolute certainty of illumination results. It is possible to get light distribution ranging from the concentration required for high-placed units in lofty halls, to the extra extensive distribution necessary for street lighting with also the intermediate requirement for normal purposes.

The types of glassware exhibited can roughly be divided under three heads: reflectors, diffusers, and refractors. In many cases a combination of either of the three principles are used when it is desired to achieve certain objects.

Holophane stiletto prism reflectors are made of clear crystal glass designed to give maximum reflective efficiency possible and predeterminate light distribution. The standard reflectors are subdivided into three types, namely, extensive, intensive and focussing, and in each of these types reflectors are made of various dimensions to suit all sizes of lamps. The difference of these three types of reflectors is in their light distribution.

olophane diffusing globes and bowls made with transparent crystal glass, inner surface of which is given over arefully calculated flutings or prisms l solely for diffusing or softening the t without loss of power. On the outface are prisms calculated for deflect- these diffused rays into directions re needed. There are many sizes and es of Holophane diffusing globes and ls exhibited, and in some cases the sing bowl is used in conjunction with stiletto reflectors.

ne series of refractors shown for t lighting are made up and assembled novel way. With exterior lighting hened or fluted glassware is liable to ct dirt more readily than a plain hed surface. To eliminate this disntage Holophane refractors are made f two bowls, one contained within the . The outer bowl has refracting ns cut on the inside face, and the bowl diffusing prisms cut on the de face. The two are assembled and d; thus a smooth surface is obtained th the inner and outer surface of the

dress: 12, Carteret Street, Queen 's Gate, London, S.W.1.

ERSOLL-RAND COMPANY, Row B, Stand 16.

THE CEMENT-GUN.

e exhibit consists of a machine ded for the application of hydrated ial and known as the cement-gun. is operated by a small portable gasoengine-driven air compressor. The nt-gun is shown at work buildp sections of concrete wall; the rapid er in which strong and substantial ng construction is made possible by se of the cement-gun is of great st to architects, builders, contracand others who may be interested in ng schemes of any kind.

dress: 165, Queen Victoria Street, on, E.C.4.

LIAM E. FARRER, Ltd., Row B, Gallery, Stand 5.

DISTRIBUTORS.

s firm exhibit their patent "Facili" utor, which is 14 ft. in diameter, and controlled by means of a low-draught syphon, and Farrer's improved automatic distributor, working on a filter 9 ft. by 4 ft. Both these distributors are the actual working articles, and will be despatched to their respective sites on the close of the exhibition. They have not received any treatment or more attention than is given to any other order sent into the works for execution. Messrs. Farrer also show the centres of the Facile distributors with 4 in., 6 in., and 8 in. feeds, and their "P" type distributors, with 6 in. and 8 in. feeds.

Address: Heath Mill Lane, Birmingham.

THE SUSSEX BRICK AND ESTATES COMPANY, Ltd., Row J, Stand 179.

BRICKS.

The company have erected a brick pavilion, designed by Mr. W. H. Hope, having as its object to show from an engineering point of view the weight-carrying, perfect alignment, correctness to size, form, and shape, of their Southwark engineering bricks. These bricks, according to Messrs. David Kirkaldy's test, will withstand a pressure of over 500 tons to the square foot. Immediate deliveries can be given from stock as well as from large weekly output. For the construction of walls for general housing and other schemes, different classes of bricks are introduced, of good shape, artistic appearance, having great weight-carrying qualities, and being impervious to damp.

Address: 52, North Street Horsham. Telegrams and telephone: Horsham 57.

HERBERT FENDER AND CO., Row J, Stand 162.

THE RECELT AND KELASTO PREPARATIONS.

The Recelt preparation eliminates the necessity for steel in tanks for the storage of any animal, mineral, or vegetable oil and spirit, even if containing a high percentage of free fatty acids, and the oil can be contained at high temperatures. Recelt is composed of a powder and a liquid, which when mixed in specified proportions and applied by means of a stiff painter's brush (simple painters' work) to the surface of a tank of concrete, brick, or other building material, forms a very hard chemical enamel, through which it is guaranteed that oil will not penetrate under the above conditions up to a temperature of 100 deg. F. Recelt costs 2½d. per foot super per coat for smooth surfaces. Kelasto is in three kinds. No. 1.—A pigmented preparation, which applied exactly as Recelt to concrete or other tanks, will store acids or admixtures of acids, with the sole exception of sulphuric above 1.250 s.g. No. 1 applied to metal or other work will absolutely protect it against all actions of corrosion, either climatic or of any other variety. Applied to the hulls of ships it has great advantages as a protection against barnacles. It is an anti-corrosive and anti-fouling preparation in one. No. 1 can be used as a guaranteed protection against or cure for dry rot. No. 1 may be used for damp coursing of buildings with absolute effectiveness, and has many other spheres of usefulness of which full details may be obtained on the stand.

Address: Bank Chambers, 329, High Holborn, W.C.1.

UNIT CONSTRUCTION COMPANY. Ltd., Row H, Stand 147.

FACTORY CONSTRUCTION

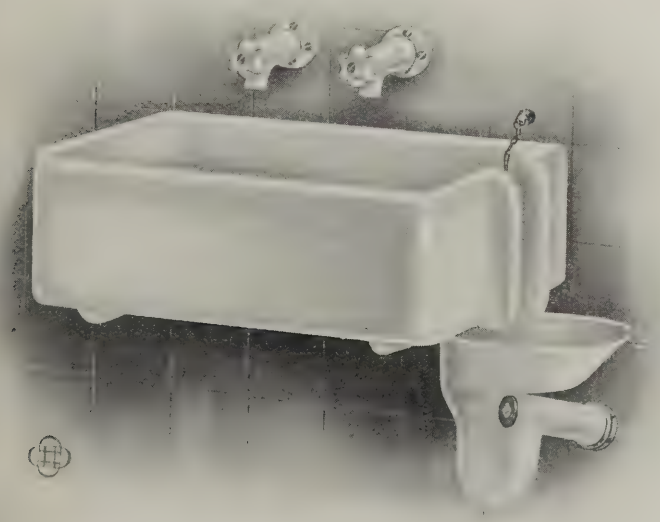
Special methods of factory construction and section of concrete continuous cavity walling are shown. Numerous photographs, plans, and designs of the "Unit" method of concrete block construction, approved by the Ministry of Health, and now being employed on large housing schemes for the Birmingham Corporation Housing Department, the Braintree Co-operative Homes, Ltd., Braintree, Essex, and the Great Eastern Railway Company, etc., are also on view.

Address: Ulster Chambers, 168, Regent Street, W.1.

DOULTON AND CO., Ltd., Row H, Stand 148.

SANITARY FITTINGS.

This exhibit consists of a representative selection of "Royal Doulton" high-class sanitary fittings, contained in five specimen bathrooms, comprising shower and plunge baths of the latest types, in the well-known white porcelain enamel finish; marble and earthenware lavatories; w.c. suites; towel rails; bidets; mirrors; and a variety of other bathroom accessories, such as self-weighing machine, toilet paper holders of various types, soap, sponge, toothbrush, and tumbler holders, cork mats, etc. Especially noteworthy are the high-class marble lavatories in grey, green, and brown Onyx marbles. Attention is drawn particularly to the valves or taps for baths, lavatories, and sinks, in white porcelaine enamel finish. These eliminate entirely the use of metal polish, and in consequence effect a great saving of labour. The "Health Closet," which compels the user to adopt a natural position, is worthy of attention. The five bathrooms shown are decorated in various styles to suit all tastes, the marble-lined room being similar, but on a smaller scale, to a number of bathrooms recently planned and fitted entirely by us in a large country mansion. Items of interest to be seen on the general section of stand, in addition to a selection of w.c.'s, lavatories, and sinks, are a drinking fountain with bubbling jet; w.c. with silent flushing valve instead of cistern; closet with raised side pieces (most suitable for factory use); a w.c. with chair over; clip connections for w.c. inlets,



AN IMPROVED FORM OF SINK AS FITTED AT KING'S COLLEGE HOSPITAL (DOULTON & CO., LTD.)

affording a sound but simple joint; ball valve with adjustable ball; a useful fitting in white porcelain enamel, comprising a toilet paper holder, ash tray, and match-box holder all in one; and patent "Duplex" swivel bath tap, which can be swung over the edge of baths, for the purpose of filling cans or jugs without possibility of damaging the interior of bath by the contact of utensils with the enamel. Lack of space prevents the exhibition of other fittings, such as urinals, wash-tubs, tanks, lavatory troughs, etc.

Address: Royal Doulton Potteries, Lambeth, London, S.E.1.

E. C. BURROUGHS, Ltd., Bay 25.

BAY WINDOW.

The exhibit comprises a bay window, showing patent pivotal window; demonstration of Hardfast water paint; exhibition of power motors; and exhibition of the "Oriole" incandescent burner.

Address: 59, Gresham Street, London, E.C.2. Telephone: Bank 922.

EMDECA METAL DECORATION COMPANY, Ltd., Row H, Stand 143a.

DECORATIVE METAL.

Emdeca enamelled wall and ceiling tiles on zinc, for kitchens, lavatories, bathrooms, larders, sculleries, shops, hospitals, etc., are exhibited.

Address: 97, Queen Victoria Street, London, E.C.

B. J. HALL AND CO., Ltd., Bay 13.

DRAWING OFFICE EQUIPMENT.

Messrs. Hall and Co. show drawing tables and cabinets, instruments, patent electric copying machines, and tracing cloths, etc.

Address: Chalfont House, Great Peter Street, Westminster, S.W.

WM. OLIVER AND SONS, Ltd., Row A, Stands 4 and 5.

WOODS.

The exhibit consists of hardwoods, and a special feature is made of English oak and walnut.

Address: 120, Bunhill Row, London, E.C.1; and at 114, East Ferry Road, Millwall, E. Telephone: Central 3746.

THE CRITTALL MANUFACTURING CO., Ltd., Row G, Stand 136.

WINDOWS.

An exhibit of standardised windows for cottages, offices, factories.

Addresses: Braintree, England; London Office, 246, High Holborn, London, W.C.1. Telephone: Holborn 326 and 327. Telegrams: Critmanco, Westcent., London.

RIPPERS, Ltd., Row F, Stand 117.

JOINERY.

The exhibit includes standard doors and windows, plain and enriched mantels and mouldings, special dressers and revolving cupboards, and other items of joinery, as well as samples of kiln-dried English oak and other timber.

Address: Station Joinery Works, Castle Hedingham. Telegrams: Castle Hedingham. Telephone: Castle Hedingham 9.

FAWCETT CONSTRUCTION COMPANY, Ltd., Row J, Stand 164.

CONSTRUCTIONAL GOODS.

The Fawcett Construction Company are patentees and manufacturers of "Mon'lithcrete" steel joists, constructional engineers, and patentees and proprietors of "The Edwardian" down draught preventing chimney pot.

Address: 47, Victoria Street, Westminster, S.W.1.

SPENSERS, Ltd., Row B, Stand 6.

GAS COOKERS, ETC.

The exhibit includes petrol gas generating apparatus, ornamental fittings, and accessories, cooking and heating apparatus, etc., consisting of one water-driven petrol gas generator for sixty lights, one weight-driven petrol gas generator for forty lights, a various selection of ornamental fittings, one large and one small gas cooker, two radiators, various gas rings, irons, and other accessories.

Address: 53, South Molton Street, London, W.1.

FERODO, Ltd., Row J, Stand 158.

STAIR TREADS.

Ferodo (registered) patent stair treads are manufactured from Ferodo fabrics, which possess the long-wearing and high-frictional properties required in a stair tread. They are made in attractive patterns suitable for wood, stone, iron, or marble staircases. Samples of various types, loose and fitted to steps, are shown.

Addresses: Sovereign Mills, Chapel-en-le-Frith; and 222, Tottenham Court Road, W.1.

PARIPAN, Ltd., Row H, Stand 143.

ENAMELS.

This stand is entirely decorated with Paripan enamel—glossy and flat—especially exhibiting the possibilities of Paripan flat for walls, ceilings and woodwork. Paripan undercoat is also shown, which has many advantages, and is so finely ground as to reduce rubbing down almost to vanishing point.

A special feature is made of Parax paint—an oil paint—for all general and outside work.

Specimens are also shown of all classes of fine varnishes.

Address: Sherwood House, Piccadilly Circus, London, W.1.

THE LONDON WARMING AND VENTILATING COMPANY, Ltd., Row H, Stand 211.

RANGES.

Demonstrations are given with the "Kooksjoie" anthracite range to show the perfection in cooking attainable with minimum fuel consumption. The "Wifesjoie" one-ring gas cooker, combining constant hot water service with saving of gas, adaptable to country house petrol-gas installations, and the "Florence" patent boiler grate for heating a whole house are also shown.

Address: 20, Newman Street, Oxford Street, W.1.

THE BRILLIANT SIGN COMPANY, Ltd., Row H, Stand 146.

SHOP SIGNS

Manufacturers of brilliant letters in all designs, facias, s'plates, tablets, and projecting signs in every known form; gilt wood letters (illuminated or plain). Patent recessed metal letters studded with electric lamps, day and night signs of all kind window letters in all styles and signs every description are exhibited.

Address: 38, Gray's Inn Road, Londo Branches: Manchester, Leeds, Brussel and Buenos Aires. Telephones: Holbo 2101 and Hammersmith 2360-1-2.

THE BRITISH LEAN COMPANY, Ltd Row J, Stand 161.

BLOCK-MAKING MACHINES.

This company hires, on a royalty basi machines, the output of which is claim to be from 800-1,000 blocks per d when worked by two unskilled men and lad. The dimensions of the two-cavi block are 12 in. by 6 in. by 6 in.; of t three-cavity block 12 in. by 8 in. by 6 i It is stated that an unskilled workman c wall-in 20 super yards per day. Sufficie machines can be delivered for the erecti of 100,000 houses.

Address: 11, Suffolk Street, Pall Ma S.W.1.

"RONUK," Ltd., Row F, Stand 100.

WOODWORK POLISH.

The exhibit is designed to illustrate a practical manner the results obtained the company's improved methods polishing flooring and woodwork of eve description and the advantages of Ron sanitary polish. The whole of the woo work of the exhibit has been prepared a polished by trained workmen of the co pany's polishing contract department.

Head Office and Works: Portsla Sussex. Showrooms: 16, South Molt Street, London, W.1.; 285, Deansga Manchester,

PULHAM AND SON, Row C, Stand

GARDEN ORNAMENTS.

At this stand are shown a few gard ornaments in "Pulmanite" stone.

Messrs. Pulham and Sons were esta lished in 1820 and have since been e trusted with the execution in every det of many notable garden schemes.

Address: 71, Newman Street, Oxfo Street, London, W.1. Telephone: Muse 515.

JOHN WRIGHT AND CO., Row Stand 137b.

GAS RANGES AND HEATERS.

The exhibits include the following:

The "Eagle" gas range and oth cookers of fully approved types. A wi variety of patent "Injector-Ventilating gas grates with patent "Thermo-X" fi fronts are displayed. Hot-water requi ments are met by the "B.T.U." g heated circulator and storage tank. T "Novo" washhouse boiler (gas-heate is also shown.

Address: Essex Works, Aston, Birmi ham.

SAMUEL ELLIOTT AND SONS (READING), Ltd., Row J. Stand 17

ORNAMENTAL WOODWORK.

Architects should view the new series period mouldings, which figure in a spec catalogue. They cover the best Eli bethan, Jacobean, Wren, Georgian, Ada and French designs. There also is sho a fine Wren balustrade. The speciality the firm is the patent anti-cyclone revo ing door, which is two-compartment. O of these doors occupies the centre of t stand and is designed in the Neo-Gr style. Other fine specimens of panel work in hand are also exhibited.

The firm also carry out their own p quet flooring, and many good types c

e seen on the floor of the stand. Speci-
ıens of church work are shown from work
n hand.
Address: Reading.

JOHN TANN, Ltd., Row C, Stand 42.

AFES AND STRONG ROOM DOORS.

The company are making a special show f high-grade strong-room doors, equipped ith anti-explosive and anti-blowpipe de-ices. The anti-explosive device has been ested and certified by Messrs. Curtis and Iarvey, Ltd., and the anti-blowpipe device y the British Oxygen Company.

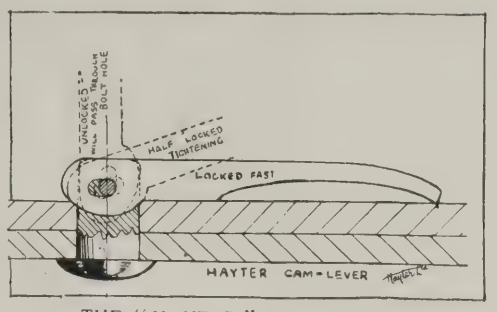
This firm also show plate closet and arty wall doors, fire-resisting doors for ook rooms, strong-room grilles, ventila-ors, shelving, steel fittings, fire and urglar-resisting safes of various kinds, ısh and deed boxes, locks, etc. The ex-ibit of safes also includes a safe specially onstructed for jewellery in private houses, tted with velvet-lined mahogany drawers nd trays, and completely enclosed in a ıahogany cabinet.

Address: 117, Newgate Street, London, .C.1. Telegrams: Safejotan, London. elephone: Central 4159.

HAYTER, Ltd., Row B, Stand 22.

CAM LEVER.

The Hayter patent cam lever is a new echanical movement, introducing a niversal joint for all parts of any con-ruction that has to be accessible readily immediately detachable without tools. he cam-lever movement in the Hayter atent is claimed to be a new one, and as ıch has been patented in all the prin-ple countries of the world. The follow-g will indicate a few of its applications,



THE "HAYTER" CAM LEVER.

and appealing particularly to the building industry, viz.:—

Portable buildings, mould, and collapsible frames for concrete, *pisé de terre* shutters, casement stays, adjusters, fasteners, door bolts, wall fitments, furnishing sundries, shop and office fittings, etc., etc. Special Features.—An absolute locking joint without springs, hinges, or screw adjustments.

Addresses: 82, Victoria Street, Westminster, S.W., and at Croydon.

J. A. KING AND CO., Row F, Stand 96.

CONCRETE CONSTRUCTION DETAILS.

The exhibits of this Company include the following:

"King" concrete partition blocks, 3 ft. by 12 in., by 2 in., 2½ in., 3 in., and 4 in. thick. Wall blocks, following thicknesses: 2 in., 2½ in., 3 in., 4 in., 4½ in., and 9 in., hollow for cavity wall or single wall construction. Plaster slab partitions: 6 ft. long, 12 in. high, 2 in., 2½ in., 3 in., and 4 in. (hollow) thick. Plaster slab ceilings: 2 ft. wide; 3 ft., 3 ft. 6 in., 3 ft. 9 in., 4 ft., 4 ft. 8 in. long; 5-8 in. and 3-4 in. thick. Roof slab construction. Puggling slabs, made to suit spacing of joists. Composition flooring, laid ½ in. thick on concrete, used in housing schemes, hospitals, offices, etc. Ferro-concrete glazing bar. "Ferro-Glass" (ferro-concrete and glass construction) is constructed with glass prisms having small ferro-concrete beams formed between, and is used for pavement, floor, roof, and stallboard lights. Weatherproof, and broken glasses may be easily replaced. "Cristol-Glass," high relief glass in copper glazing for domes, laylights, and vertical glazing.

Address: 181, Queen Victoria Street, E.C.

THE IRONITE COMPANY, Ltd., Row F, Stand 93.

FLOORING CEMENT.

"Ironite" brand cement for flooring is claimed to be dustproof, waterproof, and greaseproof for machine shops, engineering works, coal bunkers, dock quays, warehouses, power stations, garages, stables, mills, refrigerating plant, packing houses, dairies, etc. "Ironite" and Portland cement slurry or grouting is for waterproofing breeze blocks, concrete, brickwork, blocks, etc., and to avoid the cost of rendering. Aero-Blocks with two and three continuous cavities are shown, with machine for making Aero-Blocks.

Address: 11, Old Queen Street, Westminster, S.W.1. Telephone: Victoria 5618.

NETTLEFOLD AND SONS, Ltd., Row F, Stand 98.

DOOR FURNITURE, etc.

Among the exhibits on this stand are the following:

The "Bardsley" door check and spring, single and double action. The "Perfect" ball-joint in various forms, and applied as hinge to the following doors: Ordinary office or house door, hospital door, cold storage door, steel bulkhead door. The "Orbis" fanlight opener and rising jack. Electrical conduit fittings, etc. Locks and general ironmongery. The "Reliable" ratchet-spanner for general use. Special sets for automobiles, etc.

Address: 54, High Holborn, W.C.1.

KLEINE PATENT FIRE-RESISTING FLOORING SYNDICATE, Ltd., Row F, Stand 102.

FIRE-RESISTING FLOORS.

Fire-resisting floors, roofs, and staircases of reinforced hollow bricks are exhibited.

Address: 133-136, High Holborn, W.C.1. Telephone: Museum 5328.

F. AND C. OSLER, Ltd., Row E, Stand 88.

ELECTRIC LIGHT FITTINGS.

This firm of designers display electric light fittings in wrought and cast metals, English alabaster and cut crystal glass, in classic styles, suitable for domestic, ecclesiastical, and public buildings.

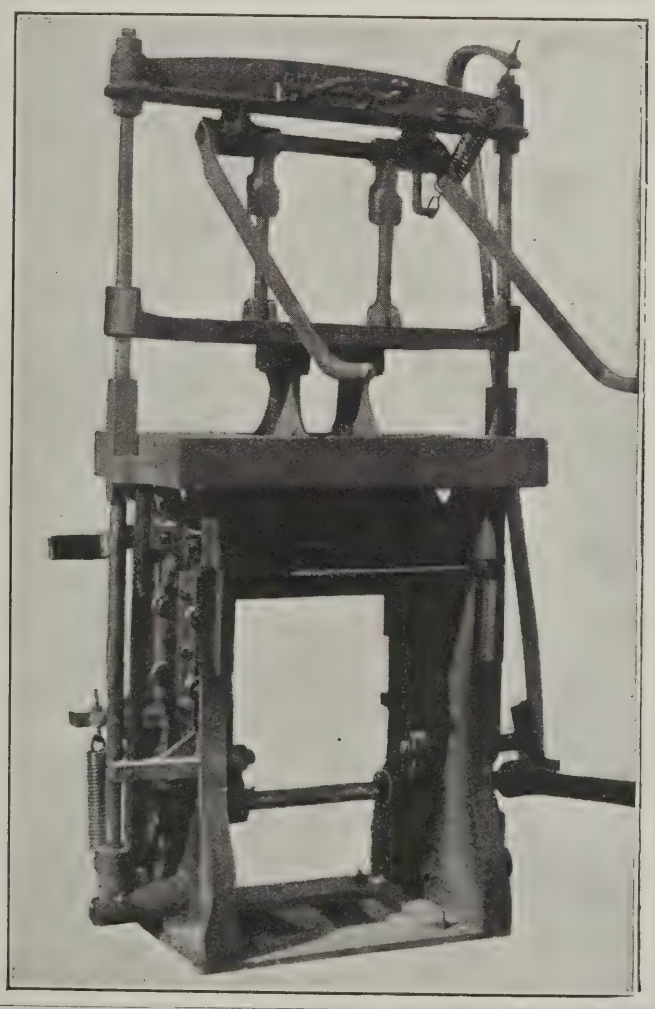
Address: 100, Oxford Street, London, W.1.

R. GAY AND CO., Ltd., Row G, Stand 125.

PAINTS AND ENAMELS.

The stand consists of a novel automatic panel display, by which three painted panels, harmonising in tone, appear in frames at stated intervals. The remainder of the stand is taken up with an exhibit of models, etc.

Address: Walter House, Bedford Street, W.C.2.



MACHINE FOR MAKING AERO-BLOCKS (IRONITE COMPANY, LTD.)

VULCANITE, Ltd., Row E, Stand 89.

ROOFING AND DAMPCOURSING.

The exhibit consists of roofing and dampcourse specialities, showing bulk samples, and the application of several waterproofing specialities, including patent vulcanite roofing for flat roofs and as applied to roof tanks; Rexilite roofing; Leatherite roofing felts; Vulcanite sheet asphaltes for roofing and dampcourse, and "Reliance" brand of lead and bitumen dampcourse; Vulcanite waterproof and Vulcanite bitumen sheetings for sarking; and Standard asphalte for filling cavity walls.

Address: 118, Cannon Street, E.C.4; Laganvale, Belfast, and branches.

BRITISH EVERITE AND ASBESTILITE WORKS, Ltd., Row E., Stand 73.

FIRE-RESISTING MATERIALS.

A permanent and fire-resisting cottage is shown, consisting of a timber frame or superstructure, completely covered externally and internally with "Everite" and "Asbestilite," materials which are claimed to be low in cost and of which practically unlimited supplies are available. The exhibit has been designed to give the maximum amount of accommodation, capable of being economically worked, combined with an artistic appearance externally, and is intended to demonstrate the many advantages of "Everite" and "Asbestilite" asbestos-cement in connection with all kinds of dwellings from a mansion to a cottage, as well as for buildings for industrial purposes.

Address: 29, Peter Street, Manchester.

THE NORTH WALES SLATE QUARRIES ASSOCIATION
Row F, Stand 92.

ROOFING SLATES.

Specimens of roofing slates from the North Wales area by quarries comprising the above association are exhibited.

Address: Secretary, Mr. Alfred H. Richards, Midland Bank Chambers, Carnarvon.

CONCRETE UTILITIES BUREAU, Row F, Stand 101.

CONCRETE CONSTRUCTION.

At this stand free literature on the uses of concrete may be obtained, and copies of "Concrete Cottages, Small Garages, and Farm Buildings," by Albert Lakeman, M.S.A., are on sale. This volume is copiously illustrated and packed with practical information which will appeal to architects, builders, and all who are interested in the housing question. Information is supplied on concrete matters generally.

Address: 35, Great St. Helens, London, E.C.3.

THE LEEDS FIRECLAY COMPANY, Ltd., Row G, Stand 123.

FAIENCE WORK, ETC.

The exhibits on this stand include the following:—

Burmantofts terra-cotta: "Marmo," "Lefco," "Greyco," "Vitreous," etc.

Faience for interior and exterior decoration.

Fireplaces for mansion, office, school, or cottage.

Glazed bricks and files, "Impervit" leadless glaze.

Patent partition bricks for closet cubicles, bathrooms, shower bath installations, etc.

Specialities for swimming bath construction. Scum channel, terra-cotta coping, graduated cove bricks, etc.

Fireclay sanitary goods: Lavatories, urinals, closets, sinks, washtubs.

Addresses: Wortley, Leeds; London Office and Showrooms: 167, Strand, W.C.2. Telephone: Central 1794.

ROBERT KEARSLEY AND CO., Ltd., Row H, Stand 151.

ENAMELS, Etc.

The stand of Messrs. Robert Kearsley and Co., Ltd., represents a Greek temple, with forecourt. In the front is a semicircular colonnade of the Doric order, with a small circular domed temple in the centre. From the seats of this one looks across the forecourt, with its grass lawns to the main temple. A note of colour is given by the grass and the flowers in the vases, which contrast pleasantly with the white columns of the temple behind. The woodwork has been prepared and finished throughout with Messrs. Kearsley's materials, the main walls of the temple being finished with "Arkalac" flat enamel, and the columns with "Arkalac" gloss. On the stand are shown panels painted with specimens of Messrs. Kearsley's colours, and finished with their special decorator's varnish, "Kapitia." The erection and decoration of the stand has been carried out by Messrs. Hampton and Sons, Pall Mall, S.W.

Addresses: Head Office and Works, Ripon, Yorkshire. London Office, "Morning Post" Building, 346, Strand, W.C. Telephone: City 6140.

MOLER FIREPROOF BRICK AND PARTITION COMPANY, Ltd., Row C, Stand 36.

FIREPROOF BRICKS.

The Moler Fireproof Brick and Partition Company, Ltd., exhibit all kinds of fireproof bricks, partition slabs, etc., for the interior building of walls, partitions, floors, etc., also special bricks for reinforcing concrete for arches, vaults, etc.

Moler bricks are stated to be fireproof, sound-proof, and vermin-proof. The exhibit includes demonstrations of the fireproof and sound-proof qualities of the material, and also a wall loaded to show the strength of the bricks.

Address: 128, New Bond Street, W.1.

THE LEYLAND AND BIRMINGHAM RUBBER COMPANY, Row D, Stand 57.

RUBBER FLOORING.

The exhibit includes examples of rubber and "Publino" tiling, as laid at the London Metal Exchange, "Lloyds," Cunard Buildings, Liverpool, and many other public and private buildings. All classes of rubber goods for builders and sanitary engineers, also for domestic use are shown, and Indiarubber mats and matting. The "Limpet" non-slip bath mats shown are held in position at the bottom of the bath by means of suckers, and the risk of slipping when the bather reclines in the water is entirely removed. The rubber roadway blocks will be of interest to all borough and other surveyors. A large area has just been laid in the metropolitan district.

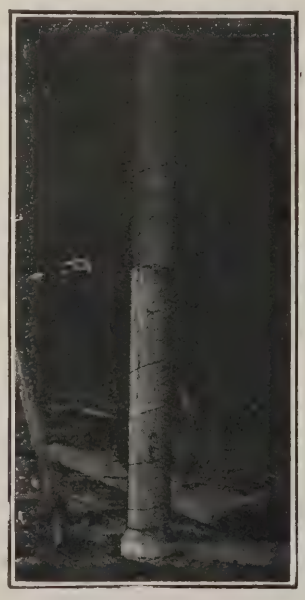
Address: Leyland, near Preston.

EXPANDED METAL COMPANY, Ltd., Row G, Stand 134.

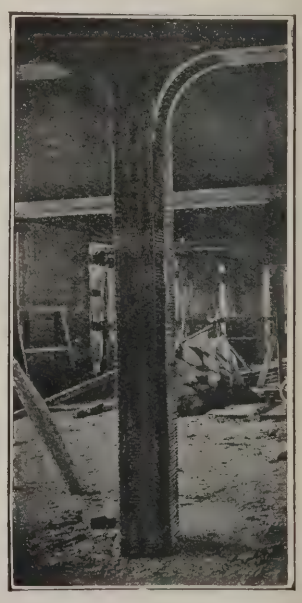
EXPANDED METAL AND STRUCTURAL STEELWORK.

The exhibit of this firm of patentees and manufacturers of expanded metal, engineers for reinforced concrete, structural steelwork, etc., consists of photographs of various works carried out on the company's systems and samples of various products. Amongst them are (1) Diamond mesh expanded steel sheet reinforcement for concrete, which has been used extensively during the past thirty years in roads, foundations, walls, floors, roofs, bridges, culverts, etc.; (2) expanded metal lathings, both for interior and exterior plasterwork; (3) "Exmet" reinforcement for brickwork, concrete blockwork, partition slabs, asphalt, etc.; (4) twisted and set steel wall-ties for cavity walls; (5) sections of reinforced concrete flooring, stairs, solid and hollow partitions, and reinforced brickwork.

Address: York Mansion, York Street, Westminster. Telegrams: Distend, Vic. London. Telephone: Victoria 8809 (two lines).



Lathing wired to round rod bent helically to column.



Lathing wired to round rod bent horizontally to stanchion.

EXPANDED METAL COMPANY, LTD.

.WALLS, Ltd., Row F, Stands 112 and 113.

ONCRETE CONSTRUCTION.

e "Dry-Walls" method of construc- makes use of poured concrete in the of a solid wall, and has an outer half allast concrete and an inner half of er concrete, as a security against con- ation. A central and vertical damp- se in the form of bitumastic sheeting es weather-tightness. By the use of pecial wall tie the strength of a solid is obtained without puncturing the al sheeting. "Dry-Walls," at their l, show various sections of walls con- ted on their system, indicating clearly practical application of the central cal damp-course, and the novel od of ensuring a perfect lap to same l points. The "Dry-Walls" economi- shuttering is available for inspection the simplicity of its use is being de- strated.

ddress: Nester Chambers, 168, Regent et, London, W.1.

IONAL ROOFINGS, Ltd., Row B, Stand 9.

ROOFINGS.

anufacturers of all classes of bitumen ngs, damp-courses, builders' felts, n tarred and tarred and sanded felts,

mongst numerous specialities they ufacture a special slate-coated roofing roll, shingle, and strip-shingle form. ongst the many advantageous features med for this class of roofing, apart n its decorative and pleasing effect, are following: Its extreme durability in all ates—can be laid on the sides of build- s as well as tops—sparks or burning ers from chimneys, locomotives, etc., not set fire to it. Its colour remains stant. It does not require to be odically repainted. Does not affect n-water. It is vermin-proof. Acids alkalis do not affect it. It is easy and to lay. Light in weight.

rocodile damp-course is claimed to be heap and most efficient material for sing schemes.

ddress: Premier House, 150, South- pton Row, W.C.1. Telephone: Museum 1.

RITISH ROOFING COMPANY, Row B, Stand 9a.

WALL AND ROOF SHEETS.

his exhibit shows the Alligator asbestic es, wall, and ceiling sheets.

he exhibit includes Alligator asbestic es, which are supplied in one standard kness, 11-64 in. Various methods of ng can be adopted, but the one recom- nded for economy combined with effi- ncy is the diagonal style with "C" tern slates 16 in. by 16 in., allowing for overlap of 3 in., but in particularly ex- ed or other abnormal positions they can supplied for either 3½ in. or 4 in. over- . These tiles can also be supplied in ilar "C" pattern, 12 in. by 12 in., in. by 18 in., or 24 in. by 24 in. Special tiles are also supplied for laying as inary slating. All tiles are sent out dy cut and holed according to the style roofing and overlap required. The tiles made in three colours, natural or grey, e, and red. Alligator asbestic tiles can nailed in the usual way on wooden tens or boards, or can be fixed direct to el angle irons.

A roof constructed with Alligator estic corrugated sheets, which is claimed to be an ideal roofing for factory construction and to be acid and chemical proof, fire and rot-proof.

Address: A. C. Jameson Green, Premier House, 150, Southampton Row, London, W.C.1. Telephone: Museum 5092.

THE YOUNG FIRM, Ltd., Row G, Stand 122.

WOODS.

American hardwoods; pine; deals, boards, and matchings; mahogany; teak; wood letters, dowells, overdoors; plywood of every description; mouldings for every purpose are shown as well as carved panels; cabriole legs. The firm specialise in square or round turnery and twist work; balusters, newels, and handrails; fretwork arches.

Address: 1, 3, and 5, Virginia Road, Bethnal Green, London, E.2 Telephone: Wall 7211.

D. ANDERSON AND SON, Ltd., Row G, Stand 124.

ROOFING, ETC., FELTS.

The exhibit comprises all classes of red hand roofing, sarking, and lining felts and damp-courses. The special exhibits consist of a model of a "Belfast" lattice girder roof covered with "Rok" roofing.

A model of a roof shows "No. 2 Stoniflex" and "Sanodor" felt, used as sarking under slates.

A tank lined with bitumen sheeting, and containing two sections of brickwork standing in water shows by contrast the advantages of using Anderson's damp-course. Wood fencing treated with "Sideroleum" wood preservative.

Address: Lagan Works, Belfast, and Roach Road, Old Ford, London, E.

THE TORBAY AND DART PAINT COMPANY, Ltd., Row G, Stand 121.

CONCRETE BLOCKS, etc.

The principal exhibit is a motor garage, dimensions 9 ft. 6 in. by 14 ft. by 8 ft. 6 in. to eaves, inside measurements; the concrete blocks showing "Novoided" waterproof face. The timber doors and eaves are preserved with "Quelle"; the roofing tiles treated with "Everok" solution; and the interior decorated with "Rencrete" stains. (These damp-proof stains are claimed to be equally efficient for external use.) This motor garage is for sale, and is so constructed that it may be taken down and rebuilt at very small cost.

Address: 26/28, Billiter Street, London, E.C.3.

THE FARRINGDON WORKS AND H. PONTIFEX AND SONS, Ltd., Row E, Stand 80.

LAVATORY FITTINGS.

The exhibits of the company include the following:—

Pontifex's "Majestic" enamelled iron combination spray, shower, and plunge bath, with plate glass spray and shower screen. "Monarch" enamelled iron bath, with broad rolled edge and plain round feet. Enamelled steel bath safe, with rolled edge and rebated outlet hole. "Leo" enamelled iron bath with round safety roll, the combined "hot" and "cold" supply valves having an old Greek model of lion's head supply. "Niké" enamelled iron bath, with round roll and continuous base in one casting. "Victor" enamelled iron bath with round safety roll. "Victory" cast iron bath with apron in one piece with the bath—white porcelain enamelled all over, etc.

Address: Pontifex House, 43/4, Shoe Lane, E.C.4. Telephone: Holborn 790.

BATTISCOMBE AND HARRIS, Ltd., Row D, Stand 63.

ARCHITECTURAL DECORATION.

The chief exhibits are as follows:—

Plaster work, including ceilings, mouldings, cornices, caps, and columns.

Joinery work, including wood carving, furniture, panelling, and fitments.

Mantelpieces, carved and in wood and Carton Pierre, in all styles, complete, with grates, marbles, etc.

Electric light fittings in carved wood, or Carton Pierre, finished gilt and toned to suit all periods.

Mirror frames in carved wood or composition, finished gilt and toned in all styles.

Memorials in wood, metal, and stone.

Address: 47 and 49, New Cavendish Street, London, W.1. Telephone: Mayfair 2869.

W. H. WILLCOX AND CO., Ltd., Bay 24.

PUMPS, LUBRICANTS, AND BELTINGS.

Semi-rotary wing pumps, rotary and plunger pumps are exhibited and "Jones-Willcox" patent wirebound (non-rubber) hose for suction and delivery, engineers' stores for steam road rollers, engine packings and jointings, cylinder oils, engine oils, and lubricating grease; injectors, automatic, and autopositive, for all pressures; lubricators, best tanned and rawhide leather beltings; Willcox "Balatite"; also Balata and canvas beltings; engineers' and fitters' tools, etc.

Address: 32 to 38, Southwark Street, London, S.E.1.

THE DAVIS GAS STOVE COMPANY, Ltd., Row G, Stand 137.

GEYSERS AND HOT WATER APPARATUS.

This working exhibit of copper geysers of high efficiency, includes the Davis "Shamrock" and "Perfecta" bath geysers, the Davis "Oxford" water heater for lavatory, kitchen, or scullery use, and the Davis "Midget" lavatory geyser. The following are also shown: The Davis "Auto-Economic" gas-heated circulator. The "New Davis" No. 109, the Davis "Wee" and "Tween," and the Davis "No. 93" D.C. gas cooking stoves. The Davis "Gascol" patent convertible gas and coal range, portable and self-setting. The Davis No. 12 "Jacobean" gas interior in appropriate mantel suite. The Davis No. 10 "Standen" gas fire in appropriate mantel suite. The Davis "N.H." (National Housing) gas interior in conjunction with the Davis "Nautilus" gas fire flue, for wall fixing without brick built chimney or chimney breast. A selection of inexpensive modern gas fires. A selection of gas-heated radiators constructed on the Davis "Steamless" principle, for large interiors, shops, and motor garages.

Addresses: London and Luton; 60, Oxford Street, London, W.1.

SUTCLIFFE, SPEAKMAN, AND CO., Ltd., Row H, Stand 156.

EMPEROR PRESS.

This press is specially adapted for making lime-sand and similar bricks. It is made in three sizes, with outputs ranging from 1,000 to 2,000 bricks per hour. The press is designed and built to

exert enormous pressure on the material worked upon, and is the only rotary press capable of pressing bricks equally from top to bottom. Pressure may be regulated at will while the machine is in motion. The feeding of the press is automatic. All principal working parts are above level of table, to prevent wear and tear caused by material falling into bearings. The mould liners are made on such principle as permits easy and rapid relining when necessary, and in addition each liner has two wearing faces. It is stated that the press is in operation in all parts of the world, working on all classes of material, with such successful results that repeat orders are a regular occurrence.

Address: Leigh, Lancs.

HARTLEY AND SUGDEN, Ltd., Row C, Stand 33.

BOILERS.

The exhibits of this firm include the following: One No. 406 series "C3" White Rose cast iron sectional boiler, heating power 1,650 square feet radiating surface, for heating public buildings, greenhouses, etc. No. 5 size wrought welded standardised Independent "Savile" boiler, heating power 162 gallons water per hour to 100 deg. Fahr., for heating water for domestic purposes. No. 2 wrought welded "Domus" boiler, heating power 54 gallons water per hour to 100 deg. Fahr., for heating water for domestic purposes. No. 10 size wrought welded "Duplex" apparatus. A combined independent boiler and cylinder for domestic hot water supply. Heating power 120 gallons of water per hour to 100 deg. Fahr. No. 1 and No. 2 size "Beacon" boilers. Open and closed fire independent boilers for heating water for domestic purposes. Heating powers 30 and 72 gallons per hour to 100 deg. Fahr. "Heatanbake" boiler. A combination of independent boilers for heating radiators and domestic hot water supply, and an oven guaranteed to bake bread. Sundry range boilers and steel pressings.

Address: Halifax. London office: 61, Great Portland Street. Telephone: Mayfair 3522.

EDWARDS CONSTRUCTION COMPANY, Ltd., Row J, Stand 163.

REINFORCED CONCRETE WALLS.

The Forrester-Marsh system of metal forms or shuttering is for rapidly and economically constructing hollow or single walls or slabs in reinforced or mass cement with a minimum amount of labour and timber. The shuttering consists of two sections of metal sheeting, one flat and one corrugated, secured together to form a rigid whole sheet, which is placed, when constructing a wall, in conjunction with other similar sheets in the desired position in opposite planes, and held apart the required thickness of the wall by means of cement or concrete "spacing blocks" fixed at properly designed intervals. Outside the sheeting temporary wood battens are placed, and the whole held rigidly together by wrought iron bolts passing through the spacing blocks, the lapped joints of the sheeting and the temporary batten.

The "spacers" are connected longitudinally one with the other by metal rods or bars, which in turn act as a reinforcement, and to which further reinforcement may be secured if desired. The concrete is poured or deposited and tamped in the usual manner, and, after time has been given for setting, the sheeting is removed and the hollow core of the "spacers" filled in. The operation is then complete. Internal and external angles of any degree of inclination can be readily formed.

A "hollow" wall is constructed in an identically similar manner, but with double the number of sheets and "spacers," and with tie bolts in position to hold the two "leaves" rigidly apart. The sheets being light weighted in comparison with their area and great strength are readily handled, their erection and removal is simple, and with ordinary care are practically indestructible.

Address: Siebert Works, Westcombe Hill, Blackheath, S.E.3.

THE RICHMOND GAS METER CO., Row H, Stand 137a.

GAS-HEATED EQUIPMENT.

The company are showing a comprehensive display of gas-heated equipment for domestic cooking, heating, and water-heating requirements. Various types included are suitable for housing schemes, the following being among the most prominent features: Five sizes of the "Bungalow" cooker. The oven is raised on a white enamel-topped stand which can be raised or lowered. This addition allows of the floor being kept clean beneath the cooker and reduces stooping when cooking is in operation. The oven (which is packed throughout) is lined with enamelled sheets and the exterior sides and back are finished in dark green enamel. All burners are fitted with gas and air adjusters to prevent "back firing," and generally to increase efficiency. The plate racks and wall plates are of patent design, the plates being held in a vertical position so that all are equally and thoroughly warmed without burning extra gas. A supply of hot water for domestic requirements, including the bath, is provided by the "Ironclad" circulator set, which consists of a boiler constructed throughout of cast iron. The hot-water cylinder is provided with a special "cut-out" valve, which temporarily reduces its capacity to about five gallons when only a moderate supply of hot water is required. When a larger supply is needed for baths the valve is opened to bring the whole contents of the cylinder into circulation.

For providing an instantaneous and continuous supply of hot water various models of "Richmond" copper geysers are shown, also a small sink boiler (the "Lyn"), which is simply hung upon the wall, connected to adjacent gas and water pipes, and provides an ample supply of hot water for every domestic requirement except the bath. "Richmond" gas-heated portable wash boilers are also exhibited, as well as a selection of Richmond's "Period" silent gasfires, and other examples of domestic gas-heated equipment, many of which are shown fitted and in operation.

Address: Warrington and 246, High Holborn, London. Telephone: Holborn 326.

RANSOME-verMEHR MACHINERY CO., Ltd., Row K, Stand 184, and Gallery Stand 26.

PUBLIC WORKS AND BUILDING CONSTRUCTION PLANT.

One of the most interesting of the Ransome exhibits is the "new principle" block and slab-making machine, together with specimens of concrete tiling on view at Stand 26 in the gallery. The Ransome block machine operates on a new principle. Instead of the block being taken from the machine the machine is taken from the block, which is left with its pallet on the ground, where it remains untouched until set. Broadly, the Ransome machine is an iron box with opening sides mounted on wheels and rising on vertical guides. The aggregate poured in, tamped, a cord is pressed whi causes the sides of the mould to fly ope The mould is then raised and the whe machine drawn backward, leaving t block with its pallet on the ground. there is no subsequent handling w material can be used, which produces dense block and short maturing period. addition to producing any finish of so or hollow blocks and slabs, the machi will make anything up to windowsil The machine may be used either mobile fixed. The firm's concrete mixers are al shown in models and sizes to meet eve need.

Ransome tar macadam plant are co bined dryers and mixers for use by pub bodies, quarries, and private firms for t production of tar macadam, asphalt, etc

The Ransome barrow—supersedi hand-cart—is mounted on two larg diameter wheels, and is balanc in such a way that the load fa on the axle. For rush work the Arr authorities in France ordered 600 of the Ransome carts. Other Ransome exhib include a hand mixer for concrete, t macadam, or chemicals; a tip wag mounted on 24 in. gauge wheels; Ra some type "D" steel piling, famed for combination of lightness and gre strength; and a pile helmet.

Address: 14-16, Grosvenor Garde London, S.W.

THE RUBEROID CO., Ltd., Row Stand 129.

ROOFING MATERIAL.

Ruberoid roofing for flat, pitched curved boarded or concrete roofs is e hibited. The firm state that during t past twenty-nine years Ruberoid has be extensively employed for the roofing of kinds of buildings, including large pub buildings, factories, docks, and engine ing railway and commercial buildings of types. In 1905 the company perfected method of colouring Ruberoid, which c now be supplied in two attractive colou red and green. Models show the method application to roofs of various types, a provide examples of flashings, gutte etc., and other exhibits are as follows:

Ruberoid damp-course, which is pure bituminous, yet unaffected by pressure temperature, and extensively employed large building estates and for housi schemes throughout the country.

Ruberoid flooring, for the covering wood and concrete floors of laboratori accumulator rooms, office buildings, wor shops, etc., where an acid-proof, wate proof, and damp-proof flooring of dural character is required. The flooring is la in the same manner as linoleum, and suitable for the covering of concrete a stone floors, to prevent rising dampne It can also be used for covering vera dahs and passage-ways exposed to t weather. Ruberoid sarking felt, for u under slates and tiles on permanent ty buildings, and on buildings in expos positions. Pluvex roofing felt, a se finished bituminous roofing for covering small buildings. P. and B. insulati papers, for lining cold stores and refriger tor chambers, roofs under slates and tile and for lining of wood and iron building to prevent the ingress of damp, dust, a draughts, and to maintain even temper ture. They are manufactured in fo qualities—Giant, Regular, Hercules, a Universal. P. and B. preservative pain for preserving submerged or subterranea wood or metal work, and for all metal wo exposed to the weather.

Address: 81-83, Knightrider Stree Queen Victoria Street, London, E.C.4.

Current Prices of Materials

DON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

BOUR RATES AND ATERIAL PRICES.	MEASURED WORK PRICES.
AVATOR AND CONCRETOR	
vator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
rer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
y, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
erman, 1s. 9d. per r.	In underpinning, add 120 per cent.
lder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
nman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
n brick or stone, ., 7s. per yd.	Headings, including timbering, add 400 per cent.
es ballast 19s. per yd	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
ravel, 20s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
nd, 22s. per yd.	Planking, 5½d. per ft. sup.
ed sand, 23s. 6d. per	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
ned ballast or gravel,	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 3d. per yd. sup.
10 per cent. per yd.	Do. 6 in. thick, 4s. per yd. sup.
er, breeze, etc., prices ording to locality.	Puddling, 30s. per yd. cube.
nd cement, 79s. per	Cement concrete, 4.2.1, 53s. 6d. per yd. cube.
	Do. 6.2.1, 50s. 6d. per yd. cube.
in small lots, ex don stock, 100s. per	Do. in upper floors, add 12½ per cent.
	Do. in ferro concrete work, add 20 per cent.
	Do. in underpinning, add 50 per cent.
ime, 70s. per ton.	Lias lime concrete, 47s. per yd. cube.
charged extra at 6d. each and credited n returned at 2s.	Breeze concrete, 33s. per yd. cube.
port hire per day:	Do. in lintols, etc., 5s. 3d. per ft. cube.
t and horse, 28s.	
n motor lorry, £6 15s	
um lorry, 5-ton, £7 5s.	
iler, 32s. 6d.	
um roller, £4 10s.	
ter cart, 30s.	
NER.	
rer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
erman, 1s. 9d. per r.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in. 15s., 9-in. 26s. per ft.
layer, 1s. 11½d. per r.	Note.—These prices include digging and filling for normal depths, and are average prices.
ber, 2s. per hour.	
nman, 6s. 6d. per shift.	
ware pipes, tested lity, 4-in. 3s., 6-in. 9d., 9-in. 7s. 11d. per	
iron pipes, coated, lengths, 4-in. 4s., 5s. 9d., 9-in. 8s. 6d. yd.	
nd cement and sand, Excavator above.	
for caulking, 60s. cwt.	
t, 1s. 9d. per lb.	
KLAYER.	
ayers, 1s. 11½d. per r.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
rer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
lder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
n stocks, 86s. per M.	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
ns, 75s. per M.	Do. picked Flettons, 4½d. per ft. sup. extra.
rdshire blue, 220s. M.	Do. picked stocks, 6d. per ft. sup. extra.
ricks, 2½ in., 223s. per	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
	Struck pointing, 4d. per ft. sup. extra.
l, salt, white, and y stretchers, £25 M.	Tuck pointing, 10½d. per ft. sup. extra.
	Weather pointing, 4d. per ft. sup. extra.
headers, £24 10s. M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
	Do. 1½-in., 5s. 10d. per yd. sup.
	Do. 2-in., 7s. 6d. per yd. sup.
s, extra, 130s. per M.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
ls, less, £1 per M.	Asphalte, damp course, ½-in., 1s. 4d. per ft. sup.
t and sand, see Ex- tor above.	Do. vertical, 1s. 8d. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
grey stone, 62s. per	Asphalte paving in two thicknesses, ¾-in., 11s. 6d. per yd.
lime mortar 26s. yd.	Do. skirting, 6-in., 1s. 6d. per yd.
course, in rolls of n. 4s., 9 in. 7s. 3d., in. 10s. 9d., 18 in. per roll.	
N (INCLUDING SLATE).	
, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 6d. per ft. cube
xer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
rer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
lder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
nd stone:	Sunk face, 3s. 1d. per ft. sup.
tbed, 4s. 5d. per ft. be.	Do. circular, 3s. 8d. per ft. sup.
	Joints, arch, 2s. per ft. sup.
	Do. sunk, 2s. per ft. sup.
bed, 4s. 8d. per ft. be.	Do. do. circular, 2s. 8d. per ft. sup.
	Circular-circular work, 10s. 3d. per ft. sup.
stone, 3s. 1d. per ft. be.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
eld red, 7s. 6d.	Do. circular, 10½d. per ft. run
l trade extras for e blocks.)	Half sawing, 10d. per ft. sup.
paving, av. 2½ in. kd. per ft. sup.	Add to the foregoing prices if in York stone 35 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
	Rubbed round nosing to do. 8d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 82s., Countess 89s., Duchess 98s. per square.
Tiler, 1s. 11½d. per hour.	
Scaffolder, 1s. 9d. per hour.	
Labourer, 1s. 8d. per hour.	
N.B.—Tiling is often "Piecework."	Westmoreland, in diminishing courses, 150s. per square.
	Delabole do. 110s. per square.
	Add, if vertical, 6s. 6d. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Add, if with copper nails, 7½ per cent. per square approx.
	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 94s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 87s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 133s. per M.	
Machine-made tiles, 124s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13d. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 15s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel: 1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or 1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Centering for concrete, etc., including horsing and striking, 93s. per sq.
	Slate battening, 29s. per sq.
	1-in. deal gutter board on firring, 108s. per sq.
	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Do. F.E., 3rd and U/S. £58.	Do. do. do. 1½in. 3s 3d. per ft. sup.
	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Battens, 3rd and U/S. £51.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
	If in oak multiply 6 times.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	If in mahogany multiply 6 times.
	If in teak multiply 7½ times.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1½-in. 16s. 6d. per yd. sup., average.
	Staircase work, deal: 1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup. 2-in. deal strings, fixed, 4s. 6d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	
T. and G. and matching, U/S. 58s. per sq. of 1 in.	
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup. of 1 in.	
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 83s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 5d. per ft.
	Do. ¾-in., 3s. 1d. per ft.
Lead, milled sheet, 60s. 6d. per cwt.	Do. 1-in., 3s. 7d. per ft.
Do. Drawn pipes, 61s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. soil pipe, 66s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Do. scrap, 30s. per cwt.	Do. 3-in., 11s. 9d. per ft.
	Do. 4-in., 16s. 3d. per ft.
Copper, sheet, 2s. 3d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 3-in., 2s. 8d. per ft.
	Do. 4-in., 3s. 5d. per ft.
Do. fine, 2s. 6d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
Red and white lead, 10d. per lb.	Do. O.G., 4-in., 2s. 3d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd. R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each. Baths only, with all joints, 37s. 6d. each. Lavatory basins only, with all joints on brackets, 30s. each.
Gutter, 4-in. H.R. 4s., 4-in. O.G. 4s. 3d. per yd.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass: Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ⅜ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ⅜-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt.	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
	Do. in Thistle plaster, 4s. per yd.
Fine stuff, 45s. 6d. per yd.	Extra, if on but not including lathing, any of foregoing, 8d. per yd.
Sawn laths, 4s. per bdl.	Extra, if on ceilings, 6d. per yd.
Keene's cement, 90s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 67s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 110s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
	Do. enamel coat, 2s. 3d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Do. boiled, 12s. 6d. per gall.	Figured do. do. 7s. 9d. per yd. sup.
	French polishing, 1s. 9d. per ft. sup.
Turpentine, 18s. 6d. per gal.	Stripping old paper and preparing, 2s. per piece.
	Hanging paper, ordinary, 2s. 3d. per piece.
Liquid driers, 22s. per gall.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 14s. per piece.
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Distemper, washable in ordinary colours, 55s. per cwt.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
	Do. each subsequent coat, 1s. 1d. per yd. sup.
Petrifying liquid, 4s. 3d. per gall.	
Double size, 7s. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping 9d. per lb.	
Varnish, hard oak, 18s. 6d. per gall.	
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 28s. per gall	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £55 per to
Mate, no fixed rate.	Do. in small sections as reinforcement, £39 per
Brector, 1s. 10d. per hour.	Do. in compounds, £44 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £43 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buil in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per
Sheet steel: Flat sheets, black, £49 per ton.	Fixing only corrugated sheeting, including was and driving screws, 1s. 5d. per yd.
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 5d. pe sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¼-in. thick, in colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not incl wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per ft
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not incl battens or boards, plain "diamond" per s grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to th of cement used (about 3s. to 4s. per bus cement).
Wrought iron R.W. goods: R.W. gutter, 4 in., per yd. 1s. 11d.	Gutter-fixed, 1s. 6d. per ft.
R.W.P., 3 in., per yd. 2s. 7d.	R.W.P. fixed, 1s. 10d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

Plans for a Greater Paris

An exhibition of architectural plans and designs for the improvement of Paris is being held at the Jardin d'Acclimatation, Paris. The object of the exhibition is not to endeavour to render more beautiful the beauties which Paris already possesses; in fact, the "improvements" which have been proposed for certain of the Seine bridges will undoubtedly detract from the picturesque aspect of the city. The Champs Elysées and the heights of Montmartre will remain untouched. Neither do the plans deal to any great extent with the modernising of the ancient parts of the city where narrow streets and insufficient sanitation call for improvements. They are rather directed towards sweeping plans for improvements outside Paris properly so-called; the beautifying of the suburbs, so many of which are merely slums clustering around factories. Garden cities on the English model have been planned and should not prove difficult of execution, especially as land near Paris is not, for the most part, worth as much as land within a similar distance of London. A new aerodrome in the neighbourhood of Paris, on the model of the Lympne aerodrome, is also being considered, as it is felt that Le Bourget is not sufficiently equipped to deal with the vast aerial traffic which, it is obvious, will shortly concentrate on Paris.

One plan, however, touches the centre of Paris itself and, although it seems too vast to hope for any possibility of speedy execution, is of great interest. Travellers through Paris will know how badly placed are the main line termini and how difficult it is to catch a connection from England to the Riviera, for example, should the boat-train chance to be late, owing to the difficulty of getting quickly from the Gare du Nord to the Gare de Lyon. The plan now on exhibition proposes to obviate all such inconveniences by creating a single terminus for all the main lines. As there is no space in Paris available for the execution of such a scheme the architect puts his giant station underground, beneath the Halles, which are in a fairly central position. Although such an improvement would be an immense boon to travellers, French taxpayers would undoubtedly not rejoice, as the sum needed for such a transformation would be enormous. A second plan on exhibition proposes to transfer all the main line termini outside the walls of Paris, but it hardly seems likely that such a proposal would meet with success, as it would increase the distance between the different stations.—Reuter's Trade Service.

Coming Events

FRIDAY, APRIL 16.

The Concrete Institute, 296, Vau Bridge Road, S.W.1. Public lectur "Submission of Plans to Local Aut ties," by Mr. E. Fiander Etchells, A.R.I.B.A, Assoc.M.Inst.C.E., etc p.m.

MONDAY, APRIL 19.

British School at Rome Scholar and Henry Jarvis Studentship.— examination at R.I.B.A. from April May 8. Full particulars from Mr. E Shaw, hon. general secretary, B School at Rome, 54, Victoria Street,

TUESDAY, APRIL 20

Architectural Association, 34 an Bedford Square, W.C.1. Conversa and Dance.

WEDNESDAY, APRIL 21.

Concrete Institute.—Visit to the Int tional Building Trades Exhibitio Olympia. 3 p.m.

THURSDAY, APRIL 22.

Concrete Institute.—"The M Port, Richborough," by Major Ha Best, R.E., F.I.S.E. 7.30 p.m.

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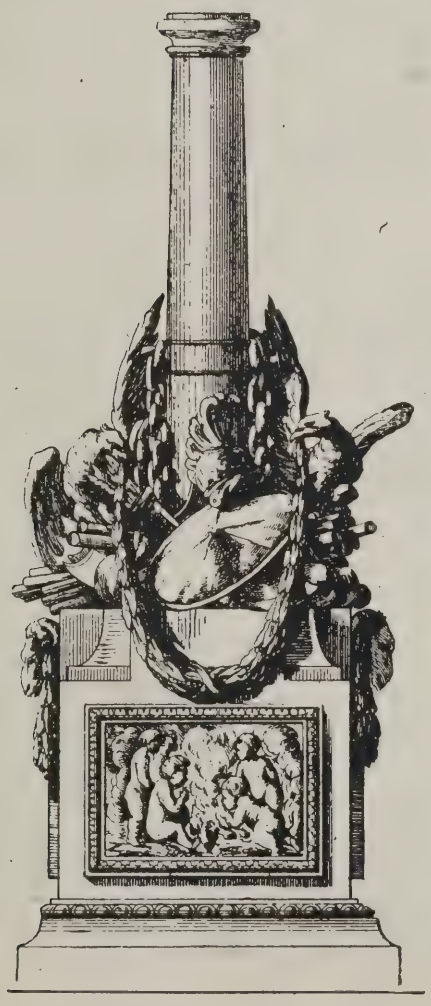
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



DETAILS BY DE LA FOSSE (IX.).

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 12.—The Bartolini-Salimbeni Palace, Florence

Baccio d'Agnolo (1462-1543), Architect

The Florentines of Baccio's day derided as bizarre the fenestration of this palace, which was built between 1520 and 1529. Note the contrasted effects of the rectangular panels and circular-headed niches alternating with the windows.

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Olympian Adventures

GOING to the Building Exhibition at Olympia is a high adventure. Any attempt to glimpse into the future is that. And Olympia gives one some fascinating peeps at a new age. it was that, when I set out to see what the builders of morrow will be doing, I felt something of the thrill of e explorer who has just arrived at a new peak in rien. It is this view-point—the long-distance look wn the road that passes on into the future—which ps one. There are not, I admit, too many sign-posts. d the scene is not over-clear. Details are lacking, yet e broad outlines are there.

Who has not some interest in building, now that we st all live in some sort of a house? It is a craft, which w and then rises to an art, that appeals to all. Even e schoolboy cannot escape it. One of the most widely own characters of school life is a builder. Was it not lbus who built a wall—Balbus who has helped more ys to Latin even perhaps than the immortal Cæsar, o amid his many campaigns discovered, to the lasting gret of the modern boy, that all Gaul was divided into ree parts? And wandering between the varied hibits in the great hall at Kensington, one's mind goes ck to Balbus. His masterpiece has disappeared. Yet e record of it remains. Of all the great craftsmen of e Cæsars Balbus is chief. Every schoolboy knows m. That, you will agree, is fame indeed. There is other wall that is famous in story—a wall, too, with ich every schoolboy is acquainted. In this case the sition is reversed. We know Balbus. No one knows s wall. In the case of the Great Wall of China everye knows the wall, for it still exists, but fame has been nied its builder. From the Great Wall of China one's oughts passed to the wonderful old palace of Crete, here water was made to flow upstairs, and to the masve remains of palaces and cities that were ruins before e Incas held sway in South America. They were arvellous builders, those ancient Americans whose ly history to-day is written in the buildings they left hind them. And glancing round Olympia the question se unbidden to the mind: Shall we, in our turn, leave hind us a story in stone—or in concrete—so magnifint, so enduring, that a thousand years hence they will and, an imperishable tribute to an Imperial race?

At least one thing may be said in our favour. We rtainly seem to prefer the concrete to the abstract. In e form or another it was to be found at every turn. ot only will the dwellings of to-morrow be made with eel and cement, but they will be turned out on the inciple of mass production. It may even be that soon r artillery will be converted to building. The old ying of American "push and go" that cities shot up a night looks as if it may become a literal fact. With e new gun our artillery might adapt the arts of war the needs of peace and shoot up a garden suburb stead of practising to shoot down a city.

Seriously, so many and ingenious are the building achines of to-day that it looks as if we shall soon return the happy state wherein no man need wait for anyone build him his house, but will do it himself. The possibilities of the new materials—reinforced concrete and the like—are clearly great. With the scarcity of skilled labour to-day the simplicity of many of the processes is an undoubted advantage. But writing as one who is concerned chiefly with the æsthetic side of things, I fear that unless great care is taken building will become a science rather than an art. This is, of course, merely a personal view. I hope I am wrong. The new phase is, after all, only in its infancy. There is time for vast advances. That they will come there can be no doubt. But the tendency to replace the architect by the engineer—an inevitable one in the circumstances—is not likely to help us in preserving our splendid artistic traditions. That artistic use can be made of the new materials is evident. That it will be made is by no means so certain.

So the first impression—the first hint of the future—I got at Olympia was that we are passing into an age of concrete. And that, whether we like it or not, seems the outcome of iron circumstances. So scarce are houses to-day that speed is the vital factor. So difficult is it to get all the skilled labour needed to put up 100,000 dwellings of brick and stone and timber that any process which can be mainly worked by the unskilled must perforce be employed.

The second impression was that in such matters as sanitation and drainage we have little to learn. Whatever else we may have achieved in domestic architecture in the last few decades we can fairly claim to have led the world in sanitary arrangements. That is at least a fine tribute to the common-sense of our outlook. We place health before art all the time. And it must be admitted that we are right. But art should hold a higher place with us than it does.

It was when I looked into the smaller matters of labour-saving devices and of decoration that I met with disappointment. Permanent fixtures in the form of set-in wardrobes, sideboards, dressers and so on were missing. At least, I failed to find any, and it was not for want of looking. Yet fixtures of this kind must sooner or later become permanent features of modern working homes. Some of the labour-saving domestic appliances were ingenious enough, but there seems to be no means of avoiding "washing-up" and other forms of drudgery which make the servant problem so trying to many house-wives. Nor did I find any exhibits showing rounded corners, cornices, and so on, to avoid harbouring dust.

Speaking broadly, the Exhibition is eminently practical. It is chiefly concerned with machines and materials. The artistic side of building is not overdone. Artistically there is little to attract. It is, perhaps, right that just now, when the main problem is to get as many houses built in the shortest possible time that the trade can manage, the practical and the time-saving should be the key-notes of the show. Yet we cannot afford to neglect the æsthetic side, however great the pressure. In building there is no reason why art and science should not go hand-in-hand. There is, on the contrary, every reason why a judicial separation should be sternly refused. "So mote it be!"

CROSSLEY DAVIES.

Notes and Comments

Does Westminster Campanile Lean?

We have been the unwitting cause of a mild sensation. A correspondent desired to be reassured that the campanile of Westminster Cathedral is of unbending integrity—of as uncompromising uprightness as its architect. We printed our correspondent's letter, which was at once pounced upon by many newspapers as the nucleus of a delightful scare. They know that there is nothing that the British public likes so much as a delicious thrill of danger. That is why the Germans, totally ignorant of our psychology, and evidently judging of it by their own, thought that their dastardly air-raids were scaring us to death when, in reality, the women and children were asking each other, "Did you enjoy your air-raid last night?" Seeing our correspondent's letter so widely quoted, annotated, and in some instances considerably embroidered, we felt it incumbent upon us to get an authoritative pronouncement on the matter. Accordingly we sought information at the fountain head. If anybody could set the horrible doubt at rest, it would be Mr. John A. Marshall, the late Mr. J. F. Bentley's coadjutor and successor—who, indeed, on Bentley's death, completed the cathedral. Him, therefore, we approached, and this is his answer: "In reply to your request for information respecting the Campanile of Westminster Cathedral, I have to say that it has *not* deviated from the perpendicular.—Yours faithfully, John A. Marshall." Short, sharp, and decisive—what, before the War, would have been called "a positive, direct, and categorical denial." The only deviation that has occurred is the deviation from the perpendicular truth by the person or persons unknown whose foundationless rumour frightened our correspondent into writing his alarmist letter. We trust that all those newspapers which so industriously spread the panic will show equal activity in disseminating the denial. Not that any real harm was done; but, in mere justice to Bentley's memory, it must be recorded that the foundations of his grand campanile were well and truly laid, and have firmly upheld the great burden laid upon them.

A Threatened "Beauty Spot"

Mr. Harry Furniss has been writing to the papers about "one of the most picturesque spots in all England's" being in danger of wanton destruction—"a spot Turner gloried in painting, Whistler in etching, and one that for generations has been acknowledged by all artists as one of absolute perfection. . . Yet this beauty spot has been selected by the authorities in search of building sites for the working man as one for destruction." The spot is near the East Hill at Hastings, and, according to Mr. Furniss's letter, the fishermen's old dwellings are to be marked for demolition. Is not this at the present moment wasteful? Before the war, when building was comparatively cheap, such houses were often not thought worth repairing. But to-day anything in the shape of four walls which will stand, and which can be made sanitary and weatherproof by judicious repairs, is well worth preserving.

A Lesson in Tidiness

A conspicuous quality of the Building Trades Exhibition is its extreme tidiness. All the exhibits are arranged in remarkably orderly array. Surely no more intensely tidy exhibition has ever been seen. Whether this is the result of military discipline, or of the example of the improved workshop management introduced and enforced for the sake of efficiency and productivity in munition works during the war, must be left to conjecture, but, whatever the origin of the phenomenon, on certainly gets the impression that this is an extra ordinarily neat display of objects which are often of suc heterogeneous shapes, sizes, and materials that the might easily have become a chaotic jumble. Builder should take this lesson to heart, for their yards ar often miracles of untidiness and disorder, and com monly the jobs on which they are engaged are in n better case. A good foreman will see to it that time temper, and materials are not wasted through mer slovenliness and want of decent arrangement. Th architect would visit the job with greater frequency an pleasure if he could be sure of finding it reasonably fre from mess and confusion.

Skyscraper Dwellings

Sir Martin Conway has again been holding forth o the question of high buildings for London. Sir Marti modestly declared that he had only a few "ramblin ideas" in which even he himself "had not any passionat belief." We are very glad of this declaration. If h had not made it, we might have been staggered by som of his proposals, which amount to a suggestion tha the whole of London should be knocked down an built up again on end, and he gave us beatific vision of whole communities in one building, with crèches schools, theatres, offices, and swimming baths in th same block, mounting up into the sky. "And it stil would not be a skyscraper," said Sir Martin musingly He is too modest. Heights which to him, as a darin mountaineer, are merely foot hills, make meaner me sick and giddy. But, after all, he has been president o the Alpine Club. On the Fee Glacier, where he woul feel ecstasy, the ordinary mortal would feel ill.

Thomas Hardy, Hon. F.R.I.B.A.

Fifty-eight years ago, Mr. Thomas Hardy gained a Institute medal. It was obtained for an essay on "Th Application of Coloured Bricks and Terra-cotta t Modern Architecture." The Institute might do wors than print it, with Mr. Hardy's permission. Terra cotta is not what it was fifty-eight years ago—nor, fo that matter, is "Modern Architecture." Nor is Mr Thomas Hardy the same kind of writer that he wa when he was a budding architect, with no idea, prob ably, that some day he would be offered the hon. Fellow ship of the Institute because of his eminence as a ma of letters. It is a graceful if belated act, and we sincerely trust that Mr. Hardy will accept the offer We are all proud to remember that the author of suc finely architectonic prose and verse was once of th brotherhood.

Our Stand at Olympia

Visitors to the Building Exhibition at Olympia are invited to visit our Stand, No. 82, Row E. They may there inspect a most comprehensive collection of publications on architecture and cognate subjects, including the new Sketch Book of the Liverpool University School of Architecture, which has just been issued. Here copies of the current issues of our periodicals, "The Architects' Journal," and of "The Architectural Review," may be bought, and any of our publications ordered at the Exhibition will be sent post free to the purchaser's address. A complete general catalogue of the books published by this firm may be obtained at the stand; and architects who have come from the provinces, or from abroad, to visit the exhibition, are specially invited to make use of our reading-room and architectural library in Tothill Street, Westminster, where they will be courteously and cordially welcomed.

Early Nineteenth Century Architecture. 6.—The Old Town Hall, Bristol

William Harris, Architect

The noble simplicity of the old Town Hall at Bristol should have preserved it from the indignities to which, as the photograph shows, it has been subjected. The ugly boards and bills with which it is so shamefully defaced should be at once removed; and no less a scandal is the planting of a "cabmen's rest" in front of the statue of Davy. The date of the old Town Hall is 1836.

Registration: The Topic of the Hour.—3

Summary of Results of Investigation by our Special Commissioner

[N our issues for April 7 and 14 we published some opinions gathered by our Special Commissioner in personal interviews with prominent architects in Birmingham, Liverpool, and Manchester. To ese may be added the view of Mr. J. B. Surman, .R.I.B.A., of Birmingham, who, favouring fusion, id that in any case it was being forced upon them by e professional Societies, particularly the engineers ıd surveyors, and that no doubt joint action would have be taken; and we record also the agreement of Mr. loyd F. Ward, A.R.I.B.A., also of Birmingham, that ere should be some recognised standard of professional tainment. At the present time, he said, anybody ·uld practise as an architect, and Mr. Ward was there-re strongly in favour of registration.

The Results Analysed

We append our Special Commissioner's summary and ıalysis of the results ascertained in the course of his ur of investigation:—

Our representative addressed the following question architects with whom he conferred: "Are you in vour of professional unity—meaning the amalgamation the R.I.B.A. and the Society of Architects—with a ew to the promotion of a Bill in Parliament to secure :atutory Registration? The answers, when analysed, ork out in the following proportions:—

For, 20; against, 7; indifferent, 12.

rom which it will be seen that the pros have a majority ver the antis in the proportion of nearly 3 to 1. ssuming, therefore, that the Councils of the two pro-ssional organisations reach a working agreement; that e figures given above may be taken as the average roughout the country; that the "indifferents" preserve neutral attitude, or ultimately go half one way and half e other—assuming all these things, then, there is not e slightest doubt that, in the event of the question of nalgamation being made the subject of a referendum, e ayes would have it.

Unity Essential

Obviously, Registration is impossible without unity, ıd it may even prove to be impossible *with* unity, ough that remains to be determined. Unity being sential, the question arises how can it best be secured? here are many difficulties. "Unity" spells sacrifice ɔth for the R.I.B.A. and the Society of Architects. or the one it means the temporary abolition of entrance :aminations (though it must not be forgotten that the .I.B.A. Council already has power to create "Fellows" : its own discretion), while for the other body it connotes ·tal extinction as a separate entity. That the sacrifice ı both sides is regarded as considerable cannot be ɔubted, and on both sides it must be made with no :tle reluctance.

Associates Favour Unity

Hitherto it has been thought that, so far as the Institute concerned, the younger Associates are the barrier to rogress; but our recent enquiry in the provinces does ot support that belief.

Nearly all the Associates with whom we discussed ıis vital matter expressed themselves in favour of the malgamation, though some naturally urged the unfair-ess of giving away broadcast, and free of any test, a iploma for which they had had to work—and work ard. The view most generally expressed, however, as that this personal sacrifice would have to be made ı the interests of future generations of architects.

How to Effect Unity

The next question that arises is: "To what extent will amalgamation of the R.I.B.A. and the Society of Architects secure unity?" There are large numbers of architects in practice who belong to no association at all. The exact number is not ascertainable as we write, but it is by no means inconsiderable. The existence of this large body of men outside any recognised architectural organisation would go a long way towards damaging any appeal to Parliament for Registration. If, therefore, unity is to be achieved in actual fact, it means that *all* architects must be roped in. This in turn must mean a certain lowering of standards. But only temporarily, let it be remembered. The outsiders must in any case remain in practice; for Parliament would not assent to any measure the effect of which would be immediately to deprive a section of the community of their means of livelihood. What has to be considered is whether the Institute could afford temporarily (that is, for the space of a generation) to risk something of prestige by admitting to its ranks men whose qualifications have not been severely tested. The answer is: In the sacred cause of unity, yes. As a prominent Liverpool architect said: "Let them all in and then shut the door."

It must not be forgoten, however, that even when they are "all in" Registration is not an absolute certainty. Parliamentary caprice is a factor to be reckoned with, and therefore the Institute and Society must prepare their ground systematically and carefully.

Propaganda Necessary

Assuming, therefore, that unity is secured, what are the prospects of getting a measure of Registration through Parliament? The general opinion is that there would be little difficulty. But Parliament will need to be shown that Registration must cover the side that architects desire most of all—that is, Design. M.P.'s would no doubt see the desirability of proper qualifications for the *constructors* of buildings, but they need to be taught that the same necessity exists with regard to the *designers of architectural forms*. Every architect knows that it is virtually impossible to master both architectural design and constructional engineering—each subject is a life study, and each appeals to a distinct kind of temperament. Engineers seldom make good architects, and vice versa. Architects and engineers both realise their own shortcomings, hence the modern practice of collaboration. Parliament would have to be made to understand all this—our legislators need educating in architectural matters as much as the "man in the street." The necessity for architects to be men of sound training and good taste would have to be impressed upon Parliament, and emphasis should be laid upon the uplifting effort of good architecture upon the community. The moral as well as the material value of architecture would have to be brought very vividly to Parliament when Registration in design is to be secured by statutory enactment.

On one thing we believe the Institute may depend, and that is on the support of the great majority of architects for any well-conceived proposal for Registration to be put before Parliament.

We are happy in the assurance, received from many correspondents (including architects of the highest standing), that in conducting this investigation we have (to quote from one of the letters) "rendered an important service to the Profession." That was our object in this instance, and is, indeed, in general matters, our *raison d'être*.

The Week's News

R.I.B.A. Housing and Town Planning Exhibition

The Exhibition of Town Plans and House Designs has been closed, the galleries being required for the Final Examination of the British School at Rome.

New Scottish Cottage Hospital

Plans for a cottage hospital at Lamlash, West of Scotland, are accepted. They have been prepared by Mr. Archibald Cook, architect, Glasgow, and comprise male and female wards, single bed wards, operating theatre, dispensary, etc.

"Improving Paris" Awards

The Committee appointed to judge the plans submitted for the improvement of Paris has awarded the first prize to MM. Joussely and Sollier. The prize is awarded for a plan to improve the capital from a practical rather than from an artistic point of view.

London Building Trades Wages

It is reported that London building trades operatives are demanding a wage rate of 3s. an hour for mechanics and 2s. 9d. for labourers. The new rates amount to a claim for two guineas a week more. The application is to be submitted to the employers, and if no agreement is reached it will come before the Joint Industrial Council.

Ecole des Beaux-Arts War Memorial

The Ministry of Public Instruction and Fine Arts in Paris has formed a committee in connection with the erection in the Ecole des Beaux-Arts of a monument to the students and members of the school who laid down their lives during the war. A subscription list, in which the R.I.B.A. are participating, has been opened to obtain funds for the erection of the monument.

Professor C. H. Reilly, O.B.E., F.R.I.B.A.

Among those included in the recent list of officers of the O.B.E. is Professor C. H. Reilly, F.R.I.B.A., Professor of Architecture in the University of Liverpool, who temporarily relinquished his work there in order to undertake the duties of Chief Inspector of Munitions for the Liverpool area from 1915-1919. Professor Reilly is at present in America, but will be returning towards the end of this month.

Deptford's Housing Scheme

Dr. C. Addison, the Minister of Health, recently turned the first sod in connection with Deptford's £250,000 housing scheme. The site is on the Hogarth Estate at Brockley, and a contract has been entered into for the erection of fifty-one concrete houses at costs ranging from £812 to £948 each. In the Metropolitan Police district, said Dr. Addison, 31,000 houses were to be built during the next twelve months, provided the money, labour, and materials were forthcoming.

Labour and Housing

As a result of the recent conference of the Parliamentary Committee of the Trades Union Congress on the housing question, which was addressed by Dr. Addison, the representatives of the Building Trades Unions have appointed a small committee to consider means of meeting difficulties in the supply of labour and rendering regular assistance to the Ministry of Health in securing the co-operation of labour in the carrying out of the housing scheme. The committee will consider certain suggestions made by Dr. Addison to the Parliamentary Committee of the Trades Union Congres together with alternative or additional proposals, but it not intended that the committee should in any way co flict with, or undertake the functions of, the Joi Industrial Council of the Building Trade.

Royal Academy Ateliers

A scheme has been prepared, under the general supe vision and control of the Royal Academy, for the co-orc nation of advanced architectural training in a group ateliers, which will work on the Beaux-Arts system, ar will be open to students day and night. The main pu pose of the scheme is to promote the study of design c the lines which the Beaux-Arts method has proved valuable; and it is intended to meet the requirements c students who are working in offices during the day tir and who will seldom have more than the evening tir to spare.

Housing Schemes

New housing schemes submitted to the Ministry c Health during the fortnight ended April 10 numbere 195. The total number of schemes submitted by loc authorities and public utility societies is now 9,547, con prising about about 66,000 acres. Schemes approve now number 5,619, and comprise about 45,600 acre One hundred and twenty-one lay-out schemes were sul mitted, and 111 approved during the fortnight, bringin the total number of lay-outs submitted to 3,565 and th number approved to 2,950. House plans representin 4,135 houses were submitted during the fortnight, an plans for 2,550 houses approved. The total number c houses represented in all the plans now submitted 177,161 and in the plans approved 164,157.

Housing Accounts Order

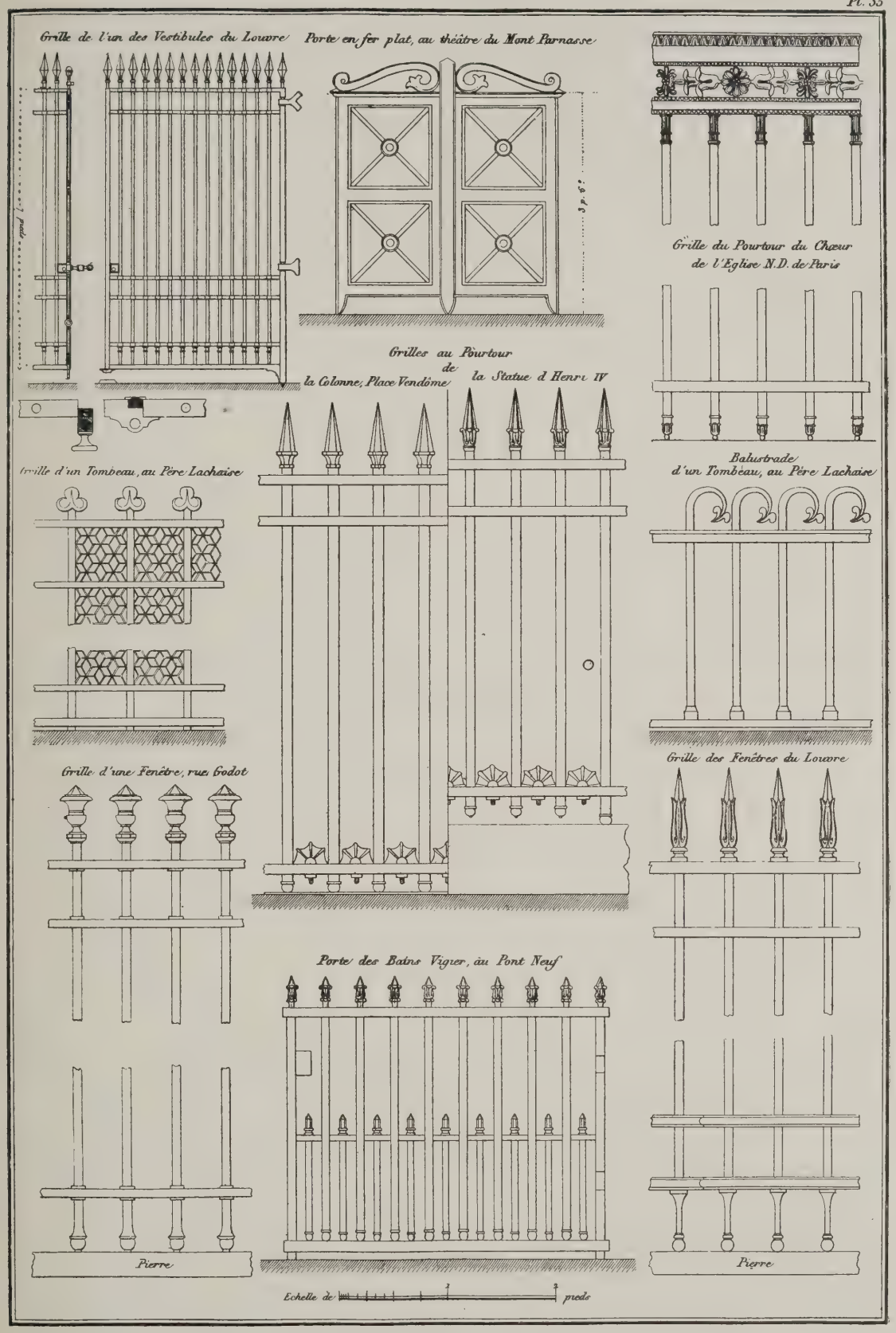
The Housing Accounts Order (Local Authorities) 1920, just issued by the Minister of Health, prescribes th books and accounts to be kept by a local authority wit respect to an assisted housing scheme within the meanin of the regulations and sets out the duties of the officer concerned. The Order applies to any local authorit which has an assisted housing scheme. In every cas the accounts to be kept under the Order will be subjec to audit by a district auditor. It requires that thes accounts shall be kept on the basis of income and expen diture, to the extent of including items falling due fo receipt or payment within or at the close of the financia period. The Minister retains power to assent to depar tures from the requirements of the Order in any cas where this course appears to be necessary. The Order together with the Circular and the Memorandum, wi be placed on sale, so that copies may shortly be obtained either directly or through any bookseller, from Hi Majesty's Stationery Office.

Leeds War Memorial

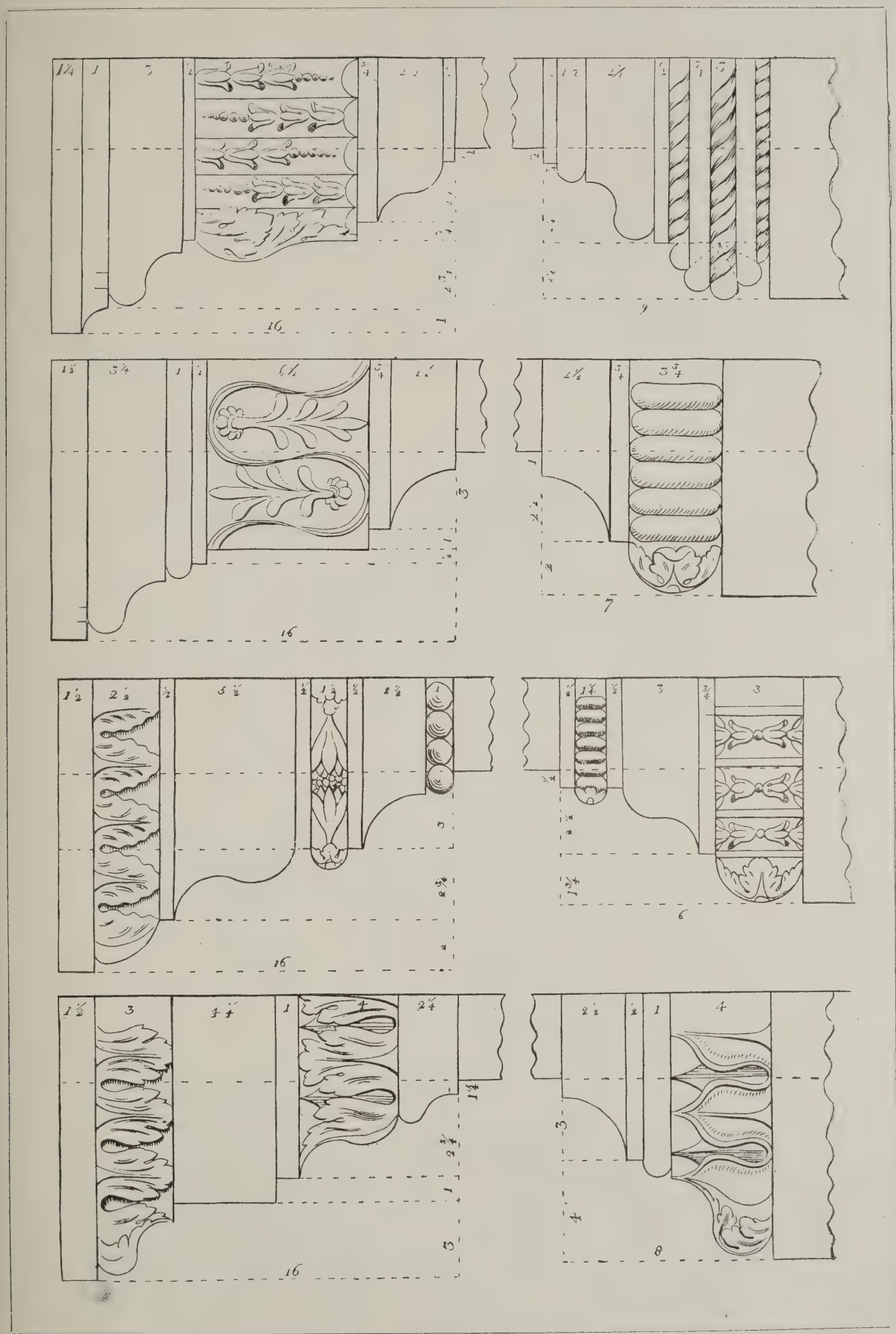
Sir Reginald Blomfield, F.R.I.B.A., in his report to th Leeds Memorial Committee, expresses a favourabl opinion on the Cookridge Street site. With regard to th form the Memorial should take, Sir Reginald states tha it should not be archæological, or recall by its desig associations belonging to other times, but should tell it story of this specific war and this specific time. Th design should therefore avoid conventional detail, an should rely for its effect on abstract qualities, simplicit of statement, finely considered mass and proportions i the architecture, austere dignity in the sculpture. O the other hand, although this is to be a Memorial to th dead, the effect to be aimed at should not be trist an depressing, but should carry with it in its design an setting a suggestion of life and movement.

French Metalwork. 13—Grilles

Pl. 35



Of great simplicity and purity of design, these grilles are nevertheless highly decorative by virtue of the graceful proportions of their parts, and the agreeable diversity of their lines, the tall perpendiculars being relieved by transverse bars that give beauty as well as strength.



These mouldings, from William Pain's book of designs, provide a variety of motifs appropriate for use in modern buildings. As will be seen, the mouldings are designed on the unit principle. Further examples will be given from time to time.

Architectural Causerie: Clocks and Cases

A FEW weeks since the whim seized me to write about the public clocks of England, that is to say those especial examples of the horologist's craft familiar to my ken. This week I will continue the gossip, for I have a weakness for clocks, public and private.

* * *

In the tower of the church of St. Mary Steps, Exeter, which dates from the period of the Tudors, there is a notable example of the clock with figures. Stout King Harry is seated in State between two soldiers armed with javelins to protect their lord, and holding also hammers with which to strike the quarters on the bells beneath their feet. The people of Exeter have dubbed the canopied design "Matthew the Miller and his two sons," and many an old wife of Exeter still quotes

Matthew the Miller's alive,
Matthew the Miller is dead,
For every hour in Westgate Tower
Matthew nods his head.

* * *

Among famous examples in the provincial towns not the least noteworthy is the clock in the tower of the parish church at Rye. This clock is of Tudor origin, but has been reconstructed at various periods. I have a measured sketch of the iron buttresses, battlement ornament, and cuspings fashioned by the master clock-maker who gave the machine life; but it is twenty years since I ascended the tower to make the notes. The case with the "quarter-boys" dates from the early eighteenth century, as does the cartouche with the legend, "For our time is a very shadow that passeth away." The High Street of Guildford, in Surrey, would be a dull spot without the projecting clock; St. Albans a barren place bereft of its Curfew Tower; Winchester desolated were the fine specimen in the High Street to be sent to America; and Ampthill a faceless town without the clock and turret in the Market Square.

* * *

It is somewhat remarkable that the late seventeenth century not only witnessed the evolution of an architectural style peculiarly modern in character, but also encouraged the production of architectural clock cases. I never look upon the faces and cases of the bracket clocks of the period following the Restoration without seeing the features of the Knibbs, Quares, and Tompions with their full-bottomed wigs, a goodly crowd of elegant wiseacres, as dainty as the spaniels owned by the Merry Monarch and as sleekly groomed.

* * *

Through the reigns of the four Georges the cases and dials of the clocks reflected the manners, dress, and appearance of all classes of English life. There were the musical clocks made for my lord's amusement, to chime sententiously through the long corridors of the palace and enliven the boredom of existence. They are faint tinkles now. There were the mahogany-cased clocks of the squire's hall and parlour, beloved of parson and nabob. How they pointed and beckoned with their hands and made mute comments as the years passed and their owners vanished from the stage!

* * *

The clocks of the past were peculiarly human machines, invested with the placidity of the period. It took many weeks to fashion the working parts. It was a labour of love for the high-class cabinet-maker, as well as for the village carpenter, to fashion the comely body. Every detail connected with the appearance of these old time-pieces is interesting, from the eagle surmounting the ball to the shaped finial on the door-hinges. And with what ease and grace the pendules swung to slow and rhythmic measure!

As I pen these lines I hear the silvery chimes of t long-cased clock in the hall, followed by the de gutturai notes of the Avenell clock in the long galler Then comes the tinkle of the Empire clock in t drawing-room, answered by the bracket clock in t dining-room. The house seems alive with notes, clock answers clock. Some are voiceless, relying their good looks and verge movements for recognitic yet all are full of inspiration in these days of ceasel activity. No architect worked harder than Sir Jo Soane, and no man was more irritable; but I thi he found solace in his collection of rare clocks, and speaks well for his taste that those he collected still wa frequenters of his house in the old musical way.

* * *

A murrain on all electrically propelled clocks. Su devices savour of black magic. Standardisation of tir is all very well in its way, but when the clock-face devoid of charm and mystery it is a poor thing by co parison with the erring recorders with which our grar fathers were content. The most curious thing about c clocks is their regional character. In the Midlands t old clocks are tall fellows, in the West Country they a stout and John Bullish, in the North, and especially Scotland, they are addicted to severity, while those Dublin wear a look of chastened resignation.

* * *

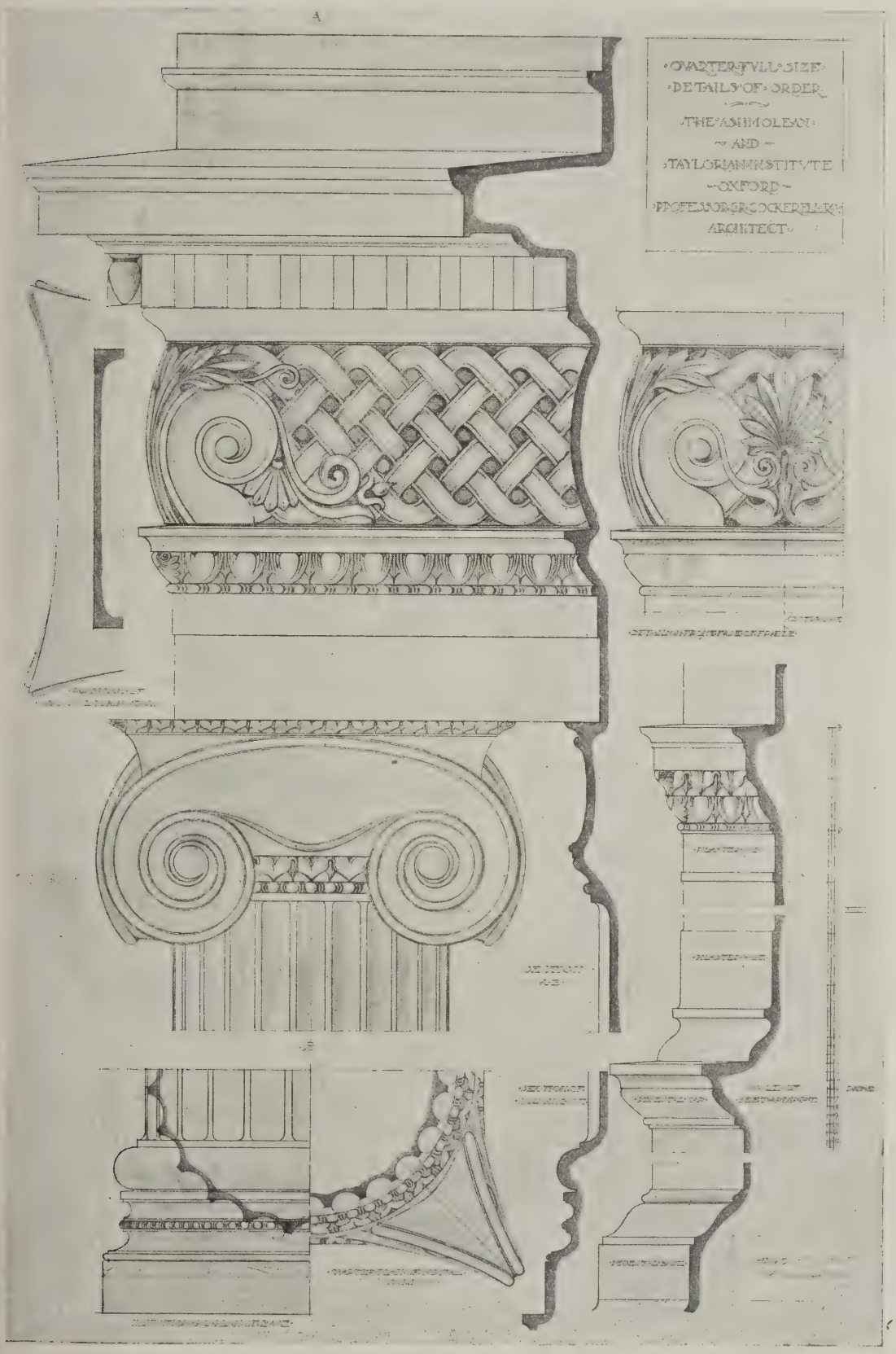
Now the preceding paragraphs lead up to the mor which is that it should be compulsory, by Act of Parl ment if necessary, that architects, and no other perso should design all the public clock faces in t principal streets. I would have the desig submitted to a board of super-sensitive censo who would see to it that all the laws good numerals and correct spacing were followed. would have it ordained that no freakish conceits w allowed. Then, if it was humanly possible, we might a return to the charming urbanity distinguishing t pleasant clock faces of Wren's day, no less than t reticent designs reminiscent of the last quarter of t eighteenth century. To bring about by Act of Parliam design for clocks might also mean the resurrection of t old Act ordaining "For and upon every clock or tin keeper, by whatever name the same shall be called, wh shall be used for the purpose of a clock, and placed or upon any dwelling-house, or any office or buildi there shall be charged an annual duty." To which would add the rider, should any such clock, machi time recorder, or electrically propelled dial be of e design, it shall, with its supports, be torn down in t presence of a magistrate and the President for the ti being of the Royal Institute of British Architects a publicly burned.

AERO

THE PROJECTING CLOCK AT WINCHESTER.

asured Drawings. 2.—Details from the Ashmolean Museum and Taylorian Institute, Oxford

Measured and Drawn by E. B. Musman, M.A., A.R.I.B.A.



The Taylor Institute forms the east wing of a grand pile in the Ionic order, the central portion and the west wing constituting the Ashmolean Museum. The original Taylor Institution, founded by Sir Robert Taylor, Architect, was built from Cockerell's designs in 1845-8, and these details reveal the exquisite taste with which he applied his consummate knowledge of classical features.

Architecture in India*

By JOHN BEGG, F.R.I.B.A., Consulting Architect to the Government of India

:AY say at once that the architect's ɔrofession in the country is a strug-ɡling one, which is very far from ıg yet "found itself." The modern .tect is a new thing in India. Before beginning of the twentieth century, ?ublic Works Department, the great ling agency, though it officially pro-d to recognise among its works a ɡory of "architectural buildings" as ıct from mere buildings, did not ber a single professionally trained itect among its members. When, in 'ear 1900, the Government of Bombay led to create the post of a "Consult-Architect," the Government thereby gurated a new era. In 1901 I was d upon to occupy the new appoint-t, and went to India prepared for l experiences. But I was hardly pre-d to find, as I soon did, how little it understood what an architect was, or his functions were. Mr. Ransome wed me about two years later as ısulting Architect to the Government ıdia" (the position I now hold), and numbers soon began steadily, if ly, to grow, till, in 1914, they had hed nearly to a score. But even after nearly twenty years of work, so comparatively are we, so split up are nto isolated units, so little has been : in the direction of co-ordination of t, and so tied are the hands of all in inevitable web of official red-tape, so picuous by its absence is anything hy of the name of a "school" in the er sense, and above all so "official" therefore, from our point of view, ımprehending) is the more intelligent on of the community—so apathetic ɔther—that even now I am not sure what an architect is and does is much er, or at any rate much more widely, erstood than it was then. One soon and, alas, has kept on meeting, the : astoundingly crude ideas on this t.

The Architect and the Craftsman

ıd yet there is no country in the world :e you see building operations more in ence than India. Nowhere are the tion of new buildings and the altera-and adaptation of existing ones more :-heartedly undertaken. Nowhere, I k, are those forces of change and de-pment that find an outward expres-in building operations more active. here are materials more plentiful, and labour—of a sort. No country in the d has a more imposing architectural :age from past ages. Nowhere, in t, are there at the present day so y circumstances pointing to opportu-:s for the architect of energy and :city. Yet, in all that vast continent, .bited by over 300 millions of our w-subjects, the number of really ified architects is under twenty in ernment service, and a somewhat ller number in private practice!

I were asked to say what it is that rentiates the architect's attitude ırds the work of the craftsman from of other professional work-controllers, ɔuld be inclined to reply that it is just enthusiastic feeling for and interest in the work for its own sake, the material, texture, toolwork, and handling, each for its own sake, bringing out and at the same time feeding on a like feeling and a like interest on the part of the workman. One has seen this, of course, in other work-controllers as well, but seldom, I think, to the same extent as in the architect. And nothing is more hopeless in relation to craft than the mere *fonctionnaire* attitude that is apt to be induced by Indian official life. From this, I believe, the architect, even the official architect, usually remains free, because and in so far as his own proper architect's attitude has in his case "got there" first. On these grounds I seriously claim for the architect that he has possibilities of becoming in India a real force towards industrial and social well-being, provided he be given a fair field and—well, just a little favour!

Architectural Policy

Let us turn to what is to me by far the most enticing consideration connected with the architect's position in India, the consideration, namely, of what ought to be his architectural policy, if I may use the expression, what ought to be his guiding principle in finding the key-note of his architectural expression, by which the suitability of the latter for the soil of India is to be judged. About the time of the initiation of the great Delhi project this question assumed some of the dimensions of a controversy. I do not wish to revive the controversy, at least in its former application to Delhi. In that application the matter has been handed over to the distinguished architects entrusted with the work. It is for them to produce their own solution in that particular and very special case, and for us to wait till we have seen the concrete expression of that solution—to wait longer, in fact, till something of the test of time and use has been applied before we venture to become critics. But I wish to take this opportunity to put the question in its purely general application to this representative meeting of my professional brethren, with a view to seeing if it be possible to arrive at a general principle or principles that may be of assistance to the rank and file of us, who are not yet distinguished architects, but who are already practising in India, and who are likely to do so in increasing numbers in the future. I feel strongly that we are in some need of such a lead—that its absence keeps the sum of our scattered activities from becoming a genuine "movement." I feel that the time has come when we ought to agree on a definite architectural policy.

I admit that the point is a controversial one—but that makes it only the more interesting. There would appear to be two schools of thought on the matter. One school holds that we should do in India as the Romans did in every country whereon they planted their conquering foot. We British, they say, should take our architecture with us, along with the law, order, justice, and Western culture which it is our glory to give to India, and that architecture should embody an expression of these things. This school deprecates all revivalist experiments. Let the work of the past stand as the memorial of the past. Let our work of the present stand to future ages as the memorial of our rule under the British Raj.

The only other school which has so far found a voice points to the acknowledged fact that an uninterrupted living tradition in architecture exists to-day, linking the present direct with the past in India alone, perhaps, among all countries of the world. It contends that the true policy ought to be to shun all imported forms and ideas and imported architects alike, but to foster and feed the existing living tradition by the agency of the men—call them what you will, native architects, stapathis, mistrys, craftsmen—with whom that tradition resides. It emphasises the need for action calculated to maintain the tradition in view of the fact that the latter is actually dying out for want of sustenance.

There is much to be said for both points of view, divergent though they may appear to be. For my part I find myself in some agreement with each, and yet in about equal disagreement with each. Neither, I think, quite covers the ground. The position to which I, after close on twenty years' study of the problem on the spot (and it is not one which can be mastered except by actually living with it and watching it in relation to all the ordinary daily architectural needs, as it were, of the country)—the position to which I find myself to have leanings is one exactly intermediate between the two. State briefly, it is this. Let the architect take to India all of his real principles, all of his technical skill, both in design and in execution, all the essence of his training, but nothing more. There let him set himself to a new pupilage, and study India's indigenous forms and expressions in relation to the general conditions he there finds. Let him absorb these forms and expressions into his consciousness, until, without abandoning one essential of his earlier training, he can, as it were, not only speak, but also think architecturally in an indigenous manner. Then, and not till then, let him tackle the problems of design for specific conditions, and he will find he can arrive at a solution at once indigenous and architecturally sound, modern, and vital. We cannot do without the architect, and at present, till India is in a position to produce indigenous architects, we cannot do without the imported British architect. But every lover of India, and of architecture, will be with me in wishing to speed the day when that country shall produce her own architects, and shall have a strong, healthy, indigenous profession of her own. It is for that indigenous profession of the future that it behoves us to prepare the way, and to set the tune. I would have every architectural effort tested by the question: "How will this fit in with the scheme of the future? Does it contribute anything to the carrying on of India's architectural tradition, or does it not?"

Now there is the question of how far it is possible for a modern British architect to find materials from the still living tradition in which he can express himself fully and freely, without detriment to the modernness of his work. I think he can if his mind is sufficiently open and unprejudiced, and if he knows how to look for his material. I do not think that one could study the work of Ahmedabad, Champanir and Bijapur without finding suggestions for the treatment of most

:ract:s from a paper read before the R.I.B.A. on 12.

parts of a modern Indian building for any purpose whatever. More, I do not think an architect could study those works at all exhaustively, or for any considerable period, without feeling himself in tune with their builders, and inspired to create as they were and as they did. And if the tradition is living, as I assert it is, as has been admitted, and as I think you will agree, is not that circumstance a guarantee of its possibilities on its own soil?

I feel that there exists in India an opportunity—or at any rate that some of the ingredients of an opportunity exist for the architect—such as is to be found nowhere else in the world. This unique thing, the survival of a living tradition of craftsmanship, and the other peculiar conditions to which I have alluded, are among these ingredients. The opportunity I mean is one for the architect to produce living modern architecture. However inspired your design, have you not time and again despaired of finding your craftsmen (under our Western system) in full sympathy? How often has not one seen a fine conception that "doesn't just come off" for want of the true craftsman's note? And this where the ideas of the design are not foreign to the country of the workpeople. But in India, provided you yourself have absorbed the indigenous tradition, and have designed in the spirit of it, there are the craftsmen ready and waiting for you, able to grasp your intentions at a glance, and to render your details, not merely intelligently, but with something of the same inspiration that bore upon you in conceiving the work. A building so conceived, and so carried out, might achieve what should be the ideal for great architecture, an embodiment of the working of a great corporate mind, of which mind that of the architect is but the coordinating part, the tenor bell (if I may borrow a phrase from a distinguished fellow architect) sounding through the whole carillon. In such a building might be recaptured the spirit of the guilds of old.

Modern architectural practice in India was a comparatively negligible quantity till at the beginning of the century it received a fillip from Government's action in iniating the recruitment to the Public Works Department of architects from home. It is still a slight affair compared to the vast opportunities which the country should, and could, afford. For a great number of years—I think for perhaps a generation—it will require careful nursing; during which time everything will depend on the lead which Government, with the Government architects, gives to the public of India with respect to the profession. The public has to be taught the value of the architect's services before the way is clear and free for the growth and progress of a private profession in the country; but it will assuredly take its line from Government in this, as it has done in the case of every other profession which has become established in India. I predict a great future for architecture and architects out there, and great benefits therefrom to the industries and to the public generally; but how soon that will begin to be I am unable to say. That depends on many matters of which the strings are partly held by Government, partly by the architects themselves.

A living tradition of craftsmanship and design still exists in India in a somewhat feeble state of vitality; and our aim should be to keep that alive, to foster it, and give it a new lease of life. In it are the germs of India's future architecture, an indigenous architecture by indigenous architects. The *métier* of the British architect now should be to act foster-mother to the infant growth. To this end the clearest thinking is necessary at the present time; and this Institute and its members, by their sympathetic interest, can give powerful aid in building up a body of professional opinion on right and helpful lines.

At the conclusion of his interesting paper, Mr. Begg was accorded a hearty vote of thanks.

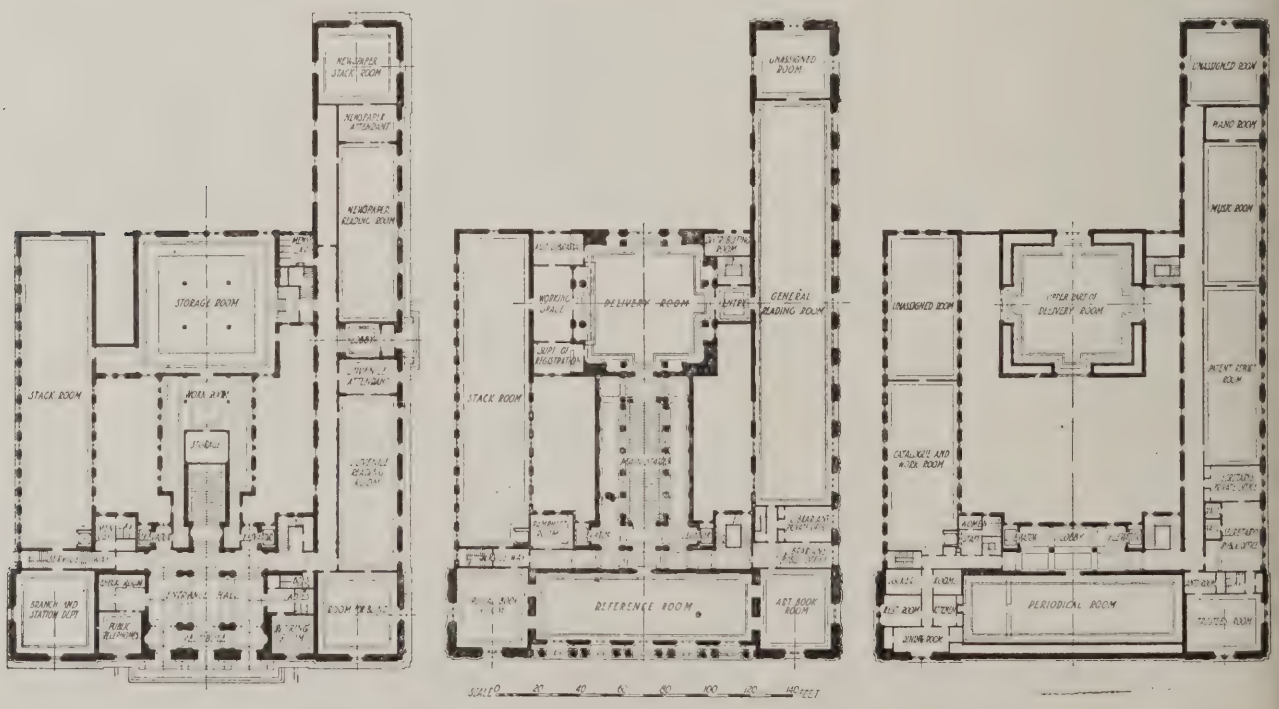
Northern Architectura Association

Mr. Nathaniel Lloyd, O.B.E., in course of a lecture entitled "Some R Ways, Some Wrong Ways, Some Sug tions," to the Northern Architect Association, said that he believed the best thing to getting a thing right wa know what was wrong. He suggested it was as necessary for architects to stock of their ideas as for a merchan manufacturer to take periodical stoc his goods. He placed a selection from own stock of ideas before the meeting invited criticism.

After touching upon one or two of salient features which have been veloped by recent study of town plann and upon placing buildings on sites, discussed the merits of emphasising tical or horizontal divisions of faça according to site. This led to the ques of good and bad divisions, and to consideration of proportion in the r comprehensive as well as in the restri sense. He claimed that, although all cerned were agreed as to the import of proportion, works executed sho remarkable disregard of this factor.

He supported this view with illus tions—good and bad examples—and means of progressive stages, throug series of slides, he showed the rela value of various features on the s building, resulting in a complete m morphosis from mere utilitarianism sound architecture. Mr. Lloyd showed right and wrong treatment roofs, of chimneys, central features, d ways, windows, walls, and some of materials most in use. Mr. Lloyd's ob was not to drown his audience in flood sonorous words, but to deal with prac things in a practical way, to give as m information as possible upon the mat selected, and to try to show what believed right in a clear and helpful

FULTON STREET FACADE



PUBLIC LIBRARY, SAN FRANCISCO. GROUND, FIRST, AND SECOND FLOOR PLANS.

Modern American Architecture. 3.—Detail of Main Façade, Public Library, San Francisco

George W. Kelham, Architect

This is yet another notable instance of the fearlessness with which the Americans build in the grand manner, and of the easy mastery with which they adapt the classical mode to modern uses. The tall doorways, with their deep jambs bearing sculptured panels, are boldly conceived and beautifully executed.

The Future of Architecture*

By Professor A. E. RICHARDSON, F.R.I.B.A.

T is a known fact that unspeakable decadence inevitably follows a great reformation. Fortunately we are on the threshold of licentiousness. To architects and artists of to-day has en the task of reformation. It is a of herculean proportions. There are oles to be cleaned, monsters to be n, and order to be restored. We must age in retrospection before we can ange the vanishing points for the new ure.

Greece, Rome, Byzantium

Our purview of architecture now in-les the masterpieces of the ancient lisations of the East; from whence we read lessons of expression on a vast e. From the monuments of Greece learn the value of standardisation of and detail, while the result of cen-es of evolution can be studied. From me we gain the theory of embodying and detail from earlier sources into ceptions of the first magnitude and plexity—not forgetting, let it be ed, the resultant loss of individual uty attending the transition from ek to Roman. We notice the pendu- again swinging to the East. antium rules for a thousand years, tallising and fusing all that is best of doomed architecture of Mesopotamia Persia with the traditions of Ionia. other words, we see evidence of the Greek revival.

Inevitable Renaissance

inally occurs the re-birth of the classic it in Italy, amounting to an almost llike belief in the glorious life of the ients. This renaissance of the monu-ts of Roman Antiquity, and, if ern investigation speaks true, of ek also, was inevitable, and it was cal. There were for the Italians the s of an earlier civilisation close at l to inspire the artists to emulation, e was the ecclesiastical authority to urage, there was also the enthusiasm princes to nurture effort and direct . The movement developed in direct to the principal interests. Florence, ice and Rome vied the one with the r. As a result of the early experi-ts versions of the old Roman gave to the new Italian. With the faith children the Italian artists worked, reverencing the doctrines of uvius, who was considered to a sort of god, and even ving the almost *unintelligible* this writer expounded. Because they artists the Italians overcame all ulties, but the main reason for their ess as designers inheres in the fact they were working in a treasure e.

e renaissance in Italy witnessed the ution of definite types of building t which I shall have more to say in ection with the most recent expression rt in America.

ance was the nation to receive the benefits of the new thought from She welcomed Leonardo and ni, she adopted the rules of Vignola, has never since swerved from her allegiance to this master. Northwards the warm Italian stream flowed. We hear of Giovan Domenico Scamozzi at Warsaw, designing the Royal Castle during the second half of the sixteenth century; a worthy father to the celebrated son. We are familiar with the adventures of Inigo Jones in Italy, and his subsequent achievements in England, and follow with interest the diary of Nicholas Stone. From the period of the Restoration of the Monarchy in the United Kingdom until the middle of the last century, and from the reign of Louis the Fourteenth until the close of the second Empire in France, we can, thanks to our vantage point, follow the classic tide. We must not forget the building aspirations of the early colonists, both French and English, in America and Canada, whose labours reflected the traditions of the mother countries; that such works, conceived in the full spirit of the renaissance, should have been possible in America little more than a century after the finest period of building had been attained in Italy is all the more remarkable. Such are the strength and value of tradition.

How the Influence Spread

I have a two-fold purpose in view in outlining the development of the new-born classic spirit. To catalogue the mass of facts and dates underlying the movement would mean a year of lectures; we should be listening to a series of texts without sermons. France received the Italian impulse direct, and quickly made its spirit her own, handing on the new teaching to Flanders and Holland; Germany and Austria alike received the classic teaching simultaneously. Strange as it may appear, Great Britain and Ireland at first drew the new inspiration from divers sources, primarily from Italy, through the influence of travelled patrons and individual artists; from France, through the agency of the artists at the French Court, and during the second half of the seventeenth century from Holland—thanks to the widespread veneration for Vingboon's book of designs, and the activities of the group of publishers at Amsterdam who printed and issued books on art for the benefit of Europe.

When the artists of France and England had had time to digest the works of Vignola, Palladio, Serlio, and Scamozzi, they set about to rediscover the works of old Rome, inspired, probably, by the work of Desgodetez†, who had been sent by Colbert at the Royal expense to Rome in 1674. Beyond doubt John Evelyn gave Sir Christopher Wren a full account of his travels in Italy, and although this architect had no opportunity to visit Rome himself, he was conversant, through the woodcut illustrations in contemporary guide books, with the principal buildings. Otherwise, how is it possible to account for the remarkable likeness between the campanili to the Church of St. Agnes at Rome and the campanili of St. Paul's Cathedral? I should have liked to see Wren's collection of architectural primers.

In the early part of the eighteenth century French artists abandoned themselves to the rocaille, a weak imitation of the baroque, a slight copying of which was experienced in England, notably in the decorations by Isaac Ware, and to a certain extent in the mid-eighteenth century town houses of Dublin. The patronage and enthusiasm of Lord Burlington (an Irishman, let it be known) checked absurd tendencies in this direction. The Society of Dilettanti soon after came into being; then followed the researches in Greece of Stuart and Revett, and the beginnings of archæological research on scientific lines as we know it to-day.

At this juncture, the middle of the eighteenth century, I must direct your attention to Russia, where the labours of Peter the Great in consolidating his vast Empire were beginning to bear fruit. In Russia we see the limit of Italian expansion. There are the palace fronts, mostly frozen confectionery, designed by Rastrelli, the domed churches projected by Rinaldi, and hundreds of other buildings of Italian origin, tainted with the baroque.

Interpretations of the style Louis Seize by Vallin de Lamothe and Bajenoff, dainty expositions after the manner of Robert Adam by the Scotsman Cameron, buildings in the English mode by Staroff, Italian palaces by Quarenghi and Rusca, drawn so nimbly by Gonzago, the Russian Malton, who had sympathy for the style of Piranesi, but who preferred Russian rhetoric. As classic architecture crystallised in the United Kingdom under Taylor, Chambers, Gandon, the Wyatts, Holland, and Bonomi, and in France under Gabriel, Antoine, and Percier, so it found its counterpart in St. Petersburg, until Brenna, Zakharoff, and Thomas de Thomon gave Russian building a tone and classic distinction of its own.

Pursuing the ramifications of the classic movement, we glance at the Italian influences in Spain; we follow the Napoleonic reaction at Turin in Northern Italy, as well as at Trieste in Dalmatia, and at Naples; we view the rise of official architecture in America, based upon the work of Great Britain and Ireland; we sympathise with Hoban, the carpenter from Dublin who designed the White House at Washington; we see the completion of the vast harbours in England, and, finally, the coming of the steam engine with all the problems of modern engineering. Through these changes the dominant expression remained classic.

The Inner Meaning

So far it has been my object to direct attention to the scope and extent of the classic movement. I share with others admiration for the magnificent buildings of the Middle Ages. I have an affection for the works of the revivalists of the last century who believed in their mission. It becomes necessary, in these days, to encourage a study of the underlying principles of Gothic architecture, if only to ensure the preservation of the monuments of the Middle Ages, but Gothic as a medium for expressing the conditions of the present day is of necessity limited; it is no longer a vital force.

It is necessary for architects to appreciate the inner meaning of building character, especially in these days when the conditions appear at first sight chaotic. For convenience, those who write upon the subject of evolution have parcelled up the periods with precision, exact dates have

*tracts from a paper read before the Architectural ation of Ireland.

† There is a copy of Desgodetez's Book at the Institute of Civil Engineers in Dublin.

been assigned to buildings, and even the extent of local and transient fashions has been determined. For want of authoritative books of reference, or perhaps owing to the lack of opportunities of foreign travel, we have been forced to study and reflect our immediate surroundings, to work in a groove, and to give academic importance to things eminently provincial. Hence the experiments and the heartburnings, recriminations and struggles, to get back to the classic spirit.

The moves in architectural design are few. The laws governing composition are unchangeable. What is true regarding the Assyrian mounds applies with equal force to the design of the Great Dam at Assouan, the grand sweep of Kingstown Harbour, and the breakwater at Plymouth. St. Peter's at Rome, St. Paul's in London, and the dome of the Capitol at Washington bear a family likeness. All designs, no matter for what purpose, reveal human traits and tendencies, reduced, let it be known to terms of abstract quality. Although the governing idea may appear at a first glance to be an attempt to crystallise an abstract theme, on analysis, adherence to type, consciously or subconsciously, persists. Examination of the architecture of every country proves this. Regarding the future, we shall not find the solution of problems in the exploitation of any one style or any particular fashion. Architecture, if it is to be anything better than mere building, must be above fashion, it must be stylish of itself, it can and must follow tradition, even when necessity demands its expression to be local or regional.

The Universal Tradition

If we accept the whole gamut of the classical achievement, and by this I mean approval of the classic spirit as affording evidence of the universal tradition, we have something definite to work upon. Time has produced distinct types, nations have evolved landmarks of style. As the circle widens it is our bounden duty to subject these masterpieces of convention to further scrutiny. We find that buildings acknowledged by successive generations to be good are undoubtedly the best. In such creations we see portrayed the character of the wise, for all good architecture shows the impress of individuality, the lineaments of the earnest individual, and the benefit of reasoned statement. Individuality flourishes best when methods, both collective and eclectic, are pursued. It is not possible for an architect, however talented, to design a building without in some way becoming part of the design—in other words, while he is engaged upon the production of the building he becomes the building. In the scientific art of building, as in all the arts, we should view our subject as a picture. We gather our material from the life story of nations as well as of individuals. It is sheer nonsense to talk of inventing, *de novo*, an architectural system based upon the exploitation of this or that material; just as it is equally fallacious to talk of exploiting the immature work of the Jacobean age in order to evolve a modern railway station. The secret of modern design, if there is any mystery at all in the matter, is to be found in the conservative observance of tradition. The triumphs of the Italians and the French resulted from the widening of the academic circle.

Modern American work owes its excellence to a very close observance of tradition—starting in the first place from a study of local tradition inspired from Great Britain and Ireland, and extending to what the Americans regard to be the world's universal tradition, namely, classic or reverence for the classic spirit.

We do not regard America, the most recent and therefore the most modern of the world powers, to have failed architecturally because she has not evolved a new style of building. The complaints and growls, now current, for a new style, do not emanate from the younger men. We do not hear of the scholars asking, nay praying, for a new style. It is the cry of the slippered pantaloon who pipes for novelty in life's dull afternoon. Clamouring for a new style will not bring about an improvement in taste. We have not yet mastered the elementary principles of the proved and tried order of things. The parrot cry regarding the impossibility of dealing with present-day conditions is likewise heard from every platform. We are told that tradition is a worn-out vessel that will not contain modern conditions, that a new order of things offers the only means of salvation.

Improvement will not be brought about by anarchy. New designs are already in being, they are daily springing up unannounced, thanks to the energies of those who prefer to avoid the vagaries of fashion.

The fact is undeniable that new circumstances cause us to invent afresh all that we already claim to know regarding the motifs of architecture, and, for that matter, of all the subsidiary arts. Respect for the antique does not mean blind admiration for things old and worn; it does not mean adoration for the goods of the rag shop and the pawnbroker. It does mean admiration for the placid and the natural, for the things we can see and understand. We should, if we could adjust our spectacles properly, look upon the attributes of the past as forming one vast scenario or tapestry to which we should be compelled to refer before attempting our parts, individual and collective, in the new picture.

Periods, styles, fashions, valuable as they are, are merely a means to an end. The artist who is a genius can dispense with plodding. Leonardo, Inigo, Wren, and Elmes had the power to read the signposts and to take the short cut to the high road. The genius comes among us at intervals, without blare of trumpet, to encourage us to fresh endeavour by rearranging that which we pride ourselves we already know.

To-day we accept the classic spirit, or the universal tradition, if you like, as being the driving power at the back of modern methods of design.

A Mighty Movement

We are, for that matter, still in the full tide of the Renaissance if the signs in America mean anything at all. It is a far bigger thing to believe that we are in the midst of a mighty movement, than to enmesh ourselves in a mass of dates and facts and to divide architectural history into a series of compartments in order to exploit one after the other as the fancy takes us. If we accept this reasoning, and acknowledge the existence of the universal spirit of classic architecture, we are in a fair way to accomplishment. The spirit of art is far wiser than the individual. I like to think of this spirit watching over the shoulder of the young architect and directing his pencil. We can call it the "divine afflatus," without which no good work is possible. It is more than tha we accept the authority of the masters. the time being, when engaged on wo of the soul, the individual becomes interpreter of the spirit of those who h preceded him. Once again he pas through the whole cycle of experience in a short space of time recasts the anew.

If you would create architecture, tr and encourage architects; give th worlds to conquer, extend their stu from the noble buildings on the Liffey the nobler buildings on the Tiber. Ar tecture should, and must be, taught in elementary schools—that is to say, rudiments of the orders. Once I had good fortune to meet a reverend fathe Clontarf, who told me that he had m it his business to teach the boys of school the five orders; to teach them understand the Customs House. If insulate artists you deprive them of power to render life more agreeable their fellows. Architecture is the fir expression of freemasonry. If it is flourish it must be universal, it must human, it must be understanded of people, and its foundation withal must traditional.

All the best works of architecture Great Britain and Ireland can be seen the asking. It is, of course, difficult make long tours from one end of country to the other in order to note ev type of design, but the majority of ar tects practise in the neighbourhood famous buildings, and if they fail to pr from such inspiration as is offered by t immediate surroundings the fault is t own. We can enjoy architecture nothing. It exists for our use and en ment; all that is required of us is that should realise that we are in the pict as well as the people for whom we buil

If we could occasionally dismiss fr our minds the notion that to be an ar tect implies the attitude of a supe person, or could dispense with our hats, we should be agreeably astonis at the result.

How Design will Develo

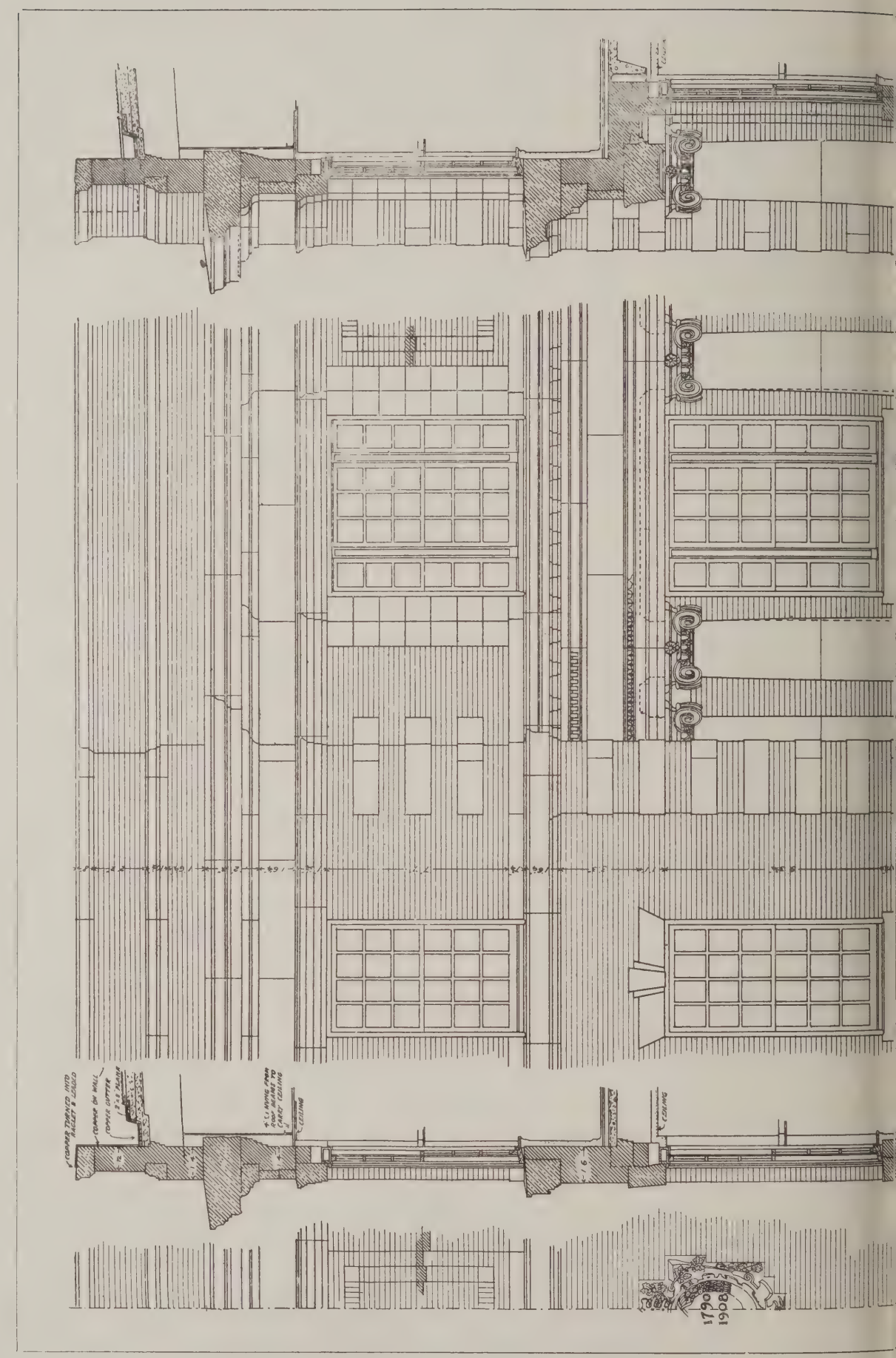
Because fate, and very little else, helped the great majority to the posi of specialists in building, there is all more reason why those who call th selves designers should try to underst the amazing and bewildering array proved buildings forming the backgro to social amenities. There are myr of people who accept the aspect of modern streets because they have nei education, taste, nor wit to know bet Some buildings please and some dep these simple souls; on the whole they happy in their abstraction, but not so man of action, the enthusiast or foreigner.

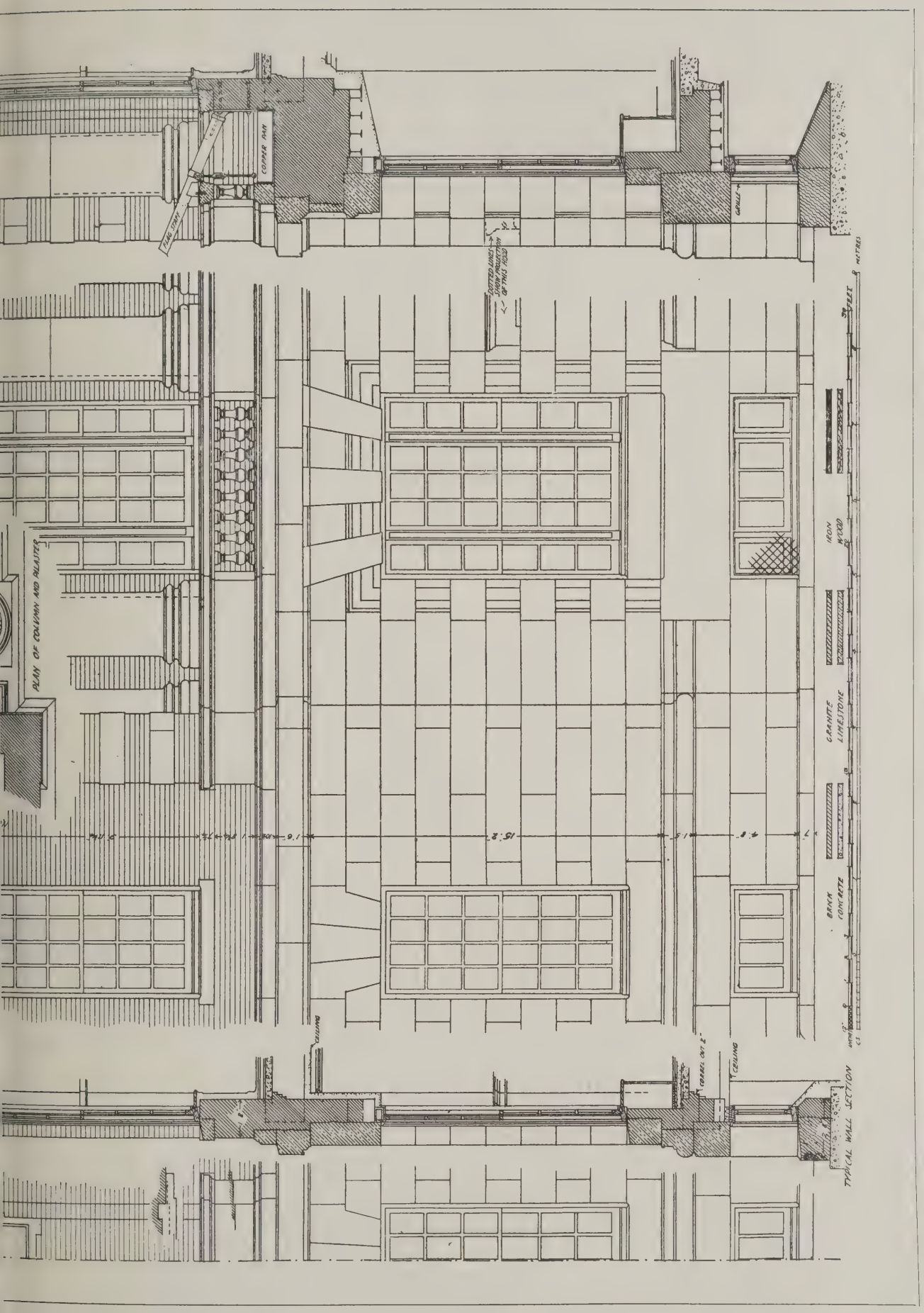
Let me explain my meaning furt Design is bound to develop on the l I have indicated, for the particular rea that bonds of friendship between co tries will be strengthened. In consequ there will ensue a greater exchange international ideas. The classic sp dominating the present phase of Renaissance, far from being worn ou awakening to fresh action. The dut the specialist, the author, and of teacher is to so order and arra information regarding types of build as to make such types accessible to and sundry. In other words, the tend should be towards the re-standardisatio types as a basis for further developm

(To be concluded.)

Details of American "Colonial" Architecture. 3.—The Franklin Union, Boston, Mass. : Exterior Details

R. Clipston Sturgis, Architect





This half-inch scale drawing of the exterior details of the Franklin Union building at Boston, Mass., sets out with great clearness the features of a frontage of much delicacy. The classical adornments, sparingly introduced, are very effective in emphasising the severe character of the conception. Note the effect of the three-light windows and the small panes in all.

Post-War Construction and Equipment

As Revealed at the Building Trades Exhibition

Vith the object of ascertaining what signs of progress the Building Trades Exhibition reveals, we commissioned a band of perts in different departments to write special reports on the various sections. Their articles, given below, impart valuable practical dications of the present position and future prospects of the industry. A comprehensive series of notices of the exhibits appeared in our special issues for April 7 and 14, and further notices are given in the present number. *(See page 539)*

1.—Bricks, Tiles, and Concrete

By a Specialist Contributor

BRICKS and tiles remain popular and important materials for domestic purposes, whilst in association with el the former possess properties of great ue for the construction of factories and blic or semi-public buildings.

Special Flooring

everal firms showed flooring in which essential feature is a series of burned y hollow blocks supported on steel ders or similar supports. In the system Homan and Rodgers, Ltd., the steel sts are laid 18-24 in. apart, and on m rest hollow bricks of a triangular ss section with a flat soffit to obviate all ust on the outer walls. This method of oring has been used in about 4,000 ldings, and its advantage lies in the t that the joists can be placed rapidly, d the hollow blocks put in position as ckly as a man can lay them; after ich any superstructure can be fitted at ce and other work can proceed immetely.

The floor by the Kleine Patent Fire sisting Flooring Syndicate, Ltd., owes strength partly to the hollow blocks d partly to the manner in which they cemented together. For cases where s necessary to use the floor sooner than desirable with one of their standard e, this firm have now arranged to subtute reinforced hollow beams which do ay with the necessity for timber tering.

Sussex and other Bricks

Some splendid bricks were exhibited by essrs. S. and E. Collier, Ltd., and by Sussex Bricks and Estates Company, d., though the latter have made a eater show of engineering bricks than the more artistic materials which have en shown in previous years. Some of Old English facing bricks in rough ture, combined with silver-grey facings d red Roman tile arches and window icks, shown by Messrs. Collier are ong the most beautiful bricks produced the Reading district, whilst the flared d facings made by the Sussex Brick mpany will attract architects who reire rather a different appearance in the ildings they design.

Of the brickmaking firms nearer ndon, Messrs. W. T. Lamb and Sons re the only representatives.

It is extremely interesting to enquire o the state of the brick works in various rts of the country, for in some localities ere is so short a supply that bricks can arcely be included among the material ich an architect can consider at the esent time. In other localities, on the ntrary, there is such a congestion that e works have had to cease making, ecause their yards are so full of stocks which cannot be sent away on account of insufficient railways and other means of transport. In this connection, it may be noted that the Sussex Brick Company make a great feature of the fact that immediate deliveries can be given of their engineering bricks, and these have recently been certified by Kirkaldy to have a crushing load of 509 tons per sq. ft.

Roofing Tiles

As most roofing tile works are in isolated areas—they must necessarily be placed where suitable clay can be found—it is significant to note that there were quite a number of stands exhibiting tiles for roofing. Several of these belong to firms who have exhibited at Olympia ever since the promoters of the Building Trades Exhibition made a bold plunge and took that great hall for the purpose, and to see these exhibits is like meeting old friends.

On the whole, the clay products industries have changed surprisingly little during the war. Not that this is to be regretted, for there is much to be said in favour of wares which have been in use so long that little fundamental improvement is possible. The difficulty in connection with the clay products industries is not in the quality or value of the wares, but in the great increase in cost of production, and in the even greater difficulty in securing supplies.

Cement Products

The use of all products in which Portland cement is employed has received an enormous impetus during the past five years. This is due almost wholly to the fact that concrete and certain other materials of an allied character can be used in building construction under circumstances where it is almost impossible to obtain other materials. In many districts there are materials such as sand or ballast which can be converted into concrete, so that the problem of transportation is reduced. This has led to the rapid development of many machines for making concrete blocks or for the erection of monolithic structures of concrete with a minimum of labour and skill.

So far as the exhibition is concerned, post-war methods of construction may be divided into three groups: (a) Concrete blocks or slabs which may either be made on the site in machines taken there for that purpose or the blocks may be made in a central factory and distributed to the building sites, (b) concrete cast in place in the walls or floors, such work constituting either a part of a building, such as panels between brick piers, or concrete walls with brick or other quoins, or a complete monolithic concrete structure, and (c) the many asbestos sheets which are sold ready for use and merely require to be nailed in place to form walls or ceilings, or, in the shape of "tiles," may be used for the roof. Some modification of these groups may occur whereby overlapping is caused; thus one firm uses a pair of asbestos sheets, one inside and the other outside the wall, and casts the concrete between them.

Hollow Blocks

A few years ago the firms engaged in selling concrete blocks for structural work always supplied them ready for use, and a few firms continue to do this at the present time. Among the most noteworthy of these at the exhibition were: S. Thornely, Mott and Vines, Ltd., whose Aero blocks have the hollows in them so arranged that, according to the makers, "wherever an imaginary straight line crosses the wall and the plane of the rows of air spaces it must pass through at least one air-space." Such an arrangement is calculated to give perfect air-insulation and great sound-proof qualities. J. A. King and Co., Queen Victoria Street, E.C., exhibited a number of blocks, each with three cavities, and so arranged that when two blocks are joined together the pair has seven cavities. This firm also supplies solid blocks and slabs. The Waller Housing Corporation, Ltd., Albemarle Street, W., uses pre-cast concrete slabs consisting of an outer dense coating of concrete and the inner portion of porous concrete with a cavity between the two.

The blocks shown by the Chemical and Technical Research Syndicate, Ltd., measure 27 in. by 9 in. by 9 in. and contain a large hollow cavity.

Block-making Machines

The many machines exhibited in connection with block-making are of two main types, namely, those in which the concrete is fed into a mould and compressed by tamping with a tool held in the hand, and those in which the compression is effected mechanically. Among the best of the hand machines shown were the "Dricrete" (Stothers and Pitt), the "Winget" (Winget, Ltd.), and the one shown by the Channello Concrete Construction Company.

Blocks made by pressure were shown by Winget, Ltd., C. H. Manell, of Bournemouth (whose hydraulic machine is particularly interesting and promising), and by Sutcliffe, Speakman and Co., Leigh, Lancs.

Hollow block machines were shown by the British Léan Company, Ltd., and by Winget, Ltd., both these machines working on the same principle.

The exhibit of R. G. Whitaker, Ltd., consists chiefly of a machine for making concrete bricks.

Shuttering

A cheap, simple and foolproof method of placing concrete in walls which are built *in situ* is that shown by the Climbing Steel Shuttering Company, in which two steel sheets, each 6-8 ft. in length, are held the correct distance apart by wires passed through holes at 2 ft. intervals in the sheets. The concrete is poured into the space between the sheets, and when it has set sufficiently, the bottom wires are cut and the sheets turned outwards and upwards, revolving on the upper wires as on hinges, and are ready to be retied at the top and so form a shuttering for a further lot of concrete. In this way the same pair of sheets is used until the wall is raised to its full height, after which tney are cleaned and are ready for another job.

Asbestos-Cement Products

Nine firms showed building constructions in which asbestos-cement sheets (sold under various fancy names) are used. Some of these, such as Everite, Poilite, and Uralite are well known, and a newcomer of unusual energy and progressiveness is W. Pattison, of Widnes.

There is clearly a great demand for houses constructed of sheets of this character, and the demand appears to be considerably greater than the supply. The rapidity with which the construction can be effected, the readiness with which the material adapts itself to architectural and decorative requirements, and the ease with which it is transported all unite to make it popular.

There can be no doubt that the methods of using cement as a binding agent various materials, such as those alrea mentioned, can do much to solve the m pressing problems with regard to housi accommodation. Where a local mater can be used, the question of transpor tion is largely solved, and althou cement is difficult to obtain at a price c sistent with one's general ideas, it c scarcely be said to be unobtainable in quantities needed for small numbers houses. For huge building schem special arrangements would natura have to be made.

Twenty firms at the exhibition show means for preventing dampness, and some of the stands ingenious means demonstrating their effectiveness h been devised, notably at the "Pudl stand.

2.—Reinforced Concrete Construction

Cement Manufacture

CEMENT being ubiquitous and all pervasive, very few of the stalls at the exhibition are wholly free from it, and one of the largest and most attractive of all the stands is that devoted specially to it. This, of course, is Stand 103 in Row F, which bears the name of the Associated Portland Cement Manufacturers, Ltd., who are the proprietors of some forty well-known brands of cement. How dull such an exhibit might have been, and how interesting it has been made! Here one may study from start to finish every stage of cement-making. Specimens of the raw materials—the chalks and clays—of which cement is made are accompanied by models of the machinery for making it. Besides the model of a storage mixing tank, to which slurry is pumped when it leaves the washmill, there is an hydraulic crushing machine of somewhat formidable dimensions, and a beautiful little model of a battery of washmills tempts one to turn the handle to see how they work. In fact, the whole process may be followed here almost as completely as at the actual works, and the understanding of it is greatly assisted by the careful labelling of the exhibits, which comprise, besides specimens of the materials as they present themselves at all stages of the manufacture, a very educative collection of aggregates, which are divided into the vitally distinct classes of "suitable" and "unsuitable." Among the suitable aggregates are Thames ballast, flint grit, Kentish ragstone, and blue gravel. Among the unsuitable are very fine sand, breeze containing sulphides, breeze containing unconsumed coal, clayey sand, soft sandstone. Cement, simple as are its ingredients, is in fact a highly refined product, which an enormous amount of scientific research has brought to a high pitch of perfection, and some of the apparatus by which it is tested add considerably to the interest and value of a really educative exhibit. A small and handsomely produced album gives photographic views of some of the firm's own reinforced concrete structures, comprising an office building, a warehouse, some factory chimneys, a pier, coal-hoppers, silos, etc., and it gives useful particulars of the brands of cement used, the "mix" adopted in each case, and other practical particulars.

This stand takes first place in our brief survey of the reinforced concrete exhibits—necessarily brief, because there are so few of them—for the simple reason that cement naturally and logically comes first as being the basic material on which all the systems of construction and of reinforcement depend. What is more, the very stability of the buildings into which cement or concrete enter depends largely on the quality of the product. Hence the high degree of scientific skill that has been lavished on the manufacture. It is a whimsical thought that this sturdy bridge or that gigantic warehouse owes its titanic strength as much to the work of the chemist in the laboratory as to the care with which the calculations of strains and stresses were made by the designer, or to the scrupulous attention given to the mixing, tamping, and other details of workmanship. In no other department of the building industry has the chemist rendered such important services as in that of cement manufacture. Perhaps he has done more in the paint and varnish department, but there decoration is in question rather than building, and does not affect the claim.

Concrete Mixing Machines

As to the supreme importance of getting a thorough "mix" every designer is aware. Hence the large number of concrete mixers at the exhibition. It is not merely to meet the demand for speed, or for the saving of labour, that so many machine mixers are on view. The fact is that hand-mixing is markedly inferior to mechanical mixing, because "to err is human." Artists may speak of "the human touch" that compels our sympathy where accuracy and uniformity are at a discount; but in the matter of mixing the cement and the aggregate of which concrete consists, uniformity and regularity of motion is essential to the production of a thoroughly homogeneous mass, and in this the mixing machine completely outclasses the human agent.

In Row K, at Stand 184, Messrs. Ransome-verMehr Machinery Company, Ltd., 14-16, Grosvenor Gardens, Westminster, S.W.1, show several machines, hand and power, of a type that is unsurpassed for speed and efficiency, and in the gallery, Bay 26, they have on view a compact and portable hand-mixer that, like most of these machines will serve for tar-macadam and other substances besides concrete.

At Bay 21, Messrs. Builders' and Contractors' Plant, Ltd., 17, Victoria Street, S.W.1, show the "Roll" patent concrete mixer, in which, it is stated, great attention has been paid to prevent wear and tear of the machine and loss of output owing to stoppages for repairs, while a closed drum prevents splashing of the liquid on the rollers.

Smith mixers are shown at Stand Row C, by Messrs. Stothert and Pitt, w have, however, as their chief exhibi petrol-driven concrete road-making pla which includes their No. 1 half-cubic-y Victoria mixer, fitted with a side loa and with road wheels.

The "Whalley" patent tar-macad and concrete mixer, shown in Bay 2 Messrs. H. J. West and Co., Ltd., Gray's Inn Road, W.C.1, is constructed the open stationary-pan principle, so t the mixing operation is visible all the tir

Systems of Reinforcement

Next we come to the all-important s ject of reinforcement. Among the hibits coming under this head we saw absolute novelty, although improveme in detail were here and there observa in the familiar "tried and truste systems that happen to be represented. Row B, at Stand 33, the British Re forced Concrete Engineering Compa Ltd., 1, Dickinson Street, Manchest showed examples of B.R.C. stirru hoops, and helicals, and their B.R fabric. The former are assembled in p tion, and a concrete slab is shown re forced with the fabric.

The Expanded Metal Company, Lt York Mansion, York Street, Westminst S.W.1, show four extremely useful clas of their products, namely, Diamond m expanded steel sheet reinforcement, for in roads, foundations, walls, floors, roo bridges, culverts; expanded metal la ings for all kinds of plaster work; "I met" reinforcement for brickwork, c crete block work, partition slabs, et twisted and set steel wall-ties for cav walls. That the range of service of th materials is extremely wide is seen fr the large number of photographs of mu farious buildings in which the Expanc Metal Company's products have been us

For "Trisec" spiral bond bars sho at Stand 4, Row B, by the Improv Twisted Steel Bar Company (1919), Lt 28, Victoria Street, S.W.1, it is clain that they effect a considerable reduction the weight of steel used.

Johnson's Reinforced Concrete E gineering Company, Ltd., was familiar us at former exhibitions as "Rd. Johns Clapham and Morris, Ltd." They exhi in Row H at Stand 142, their Lattice a Keedon system of construction, in wh a rigid connection between the sh members and the reinforcing bar is secu by key-wedging. With Keedon sh members in position, a series of collars

med where the shear members surround bars, the application of the key con- ting the collars into rigid fixings which not slip during filling and ramming.

The Climbing Steel Shuttering Com- ny, 515, Queen's Road, Sheffield, ex- ited, Row E, Stand 77, a new system building concrete walls in situ without wooden shuttering, thus effecting, it is claimed, a great reduction in form-work costs. Light bolstered galvanised steel plates form the shuttering, which is moved upwards as the work proceeds. The shutters are held apart for the thickness of the wall by means of wires that pass through holes in the upper and lower edges of the shutters. When the concrete has been filled in and has stiffened, the lower wires are cut and the plates are turned up from the bottom (the top wires acting as hinges), ready for the next batch. Other systems are described below.

Many prominent systems of reinforced concrete construction were not represented.

3.—Newer Materials

By FREDERICK CHATTERTON, F.R.I.B.A.

THE building industry is at the present time face to face with problems as serious as any it has ved in the course of its history. It has only to cope with a famine in terials but also to overcome a shortage labour and difficulties of transport. ch a condition of affairs, aggravated as is by enhanced prices, has naturally ected its immediate prosperity, and for moment the relief so greatly desired not in sight. Nor can it be reasonably ected to be otherwise, when we con- er the havoc—both economic and social which four years of concerted destruc- n have wrought among the warring ions.

Though constructive work of every cription has fallen most gravely in ears, it is well to remember that the ans by which this appreciable deficit is be wiped out, and relatively normal ditions allowed to take its place, are rcising some of the acutest minds in world of industry. It is not the habit our race to remain idle when national rk has to be done, and we may confi- tly predict that the task of re-construc- n, now being so strenuously undertaken the community, will approach comple- n within a far shorter time than seems ely at a first glance. After such a iod of destruction, it will, in all prob- lity, take quite as long for stable con- ions to be restored, but we feel assured, vertheless, that the future is full of mise, and that the industry as a whole no need to take a gloomy view of its spects.

These considerations vitally concern hitects and builders alike, since it is on their common efforts that the public st inevitably rely for some amelioration the hardships which the shortage of w dwellings—to take the most obvious the existing disabilities—brings in its in.

Although the war has unquestionably ought the situation to its present nax, it may be stated with equal truth t the national needs, as exemplified the imperative necessity for the rapid struction of countless munition fac- ies and other structures for the manu- ture of war material, were largely met the employment of those newer terials, which have now established mselves as reliable alternatives for the er and traditional ones.

Much progress has been made in recent ars in perfecting the numerous terials which fall under this heading, d a survey of the more important of m now being shown at the exhibition ll, it is believed, be helpful to the archi- t, by directing his attention to alterna- e means of building and finishing. It not intended to prejudice the older terials in any way, but merely to indi- e the nature and application of such nmodities.

Concrete Construction

While concrete construction is by no means a new idea, certain applications of it are certainly novel, and as such will be here noticed. Of these, the concrete block, so largely employed by housing authorities and for structures of a very wide range of type and purpose, is a conspicuous example of a material which may legitimately be utilised for most classes of walls and partitions in place of brick or stone.

The rapidity with which concrete building blocks can be made and erected, their diversity of shape, size, and finish, and the relatively small amount of skill required in their employment for building purposes, are among the chief advantages which may be claimed on their behalf; while, as regards cost, most makers of block machines can produce data showing considerable economies resulting from their use. Generally speaking, the concrete—which may contain any suitable aggregate—is mixed dry and subjected to pressure in the machine. Architects desiring further information respecting the numerous types of concrete block machines and blocks on view, will find it well worth while inspecting the following: The Australia, Row D, 69; Deards', K, 202; the British Léan Company, Ltd., J. 161; the Cat-Ar, Bay 14a; the Channello Concrete Construction Company, F, 111; the "Cesalith," F, 116a; the "Winch," B, 32; the "Aero," F, 93; the "Kirk," B, 11; the "Manelite," B, 21; the Ransome, Bay 26; the "Dri-crete," C, 41; the "Tarmac" and "Vinculum," Bays 4 and 5; Vickers', Hobbs', D, 71 and 72; R. G. Whitaker, Ltd., J, 167; the "Anchor," E, 78; the "Unit" method, H, 147; and the "Winget," E, 78. Practical demonstrations are given at many of the stands, where the process of making the blocks and slabs may be seen in operation. Machines for making concrete bricks such as Vickers', D, 71, 72; and the "Plus," Bay 21, will also be found of interest.

Concrete construction is shown in several other varieties, such as the "Doric" system, J, 173, in which the walls are monolithic and solid; the Forrester-Marsh system of shuttering, J, 163, demonstrating single and hollow concrete walls and slabs built *in-situ*; the Climbing Steel Shuttering Company's method of forming continuous lengths of walling by filling up the space enclosed by the shuttering, a course at a time, E, 77; and the Dry-Walls system, F, 112 and 113, in which concrete walls, having a vertical damp course down the centre, are made by pouring concrete into patent shuttering clamped to piers of brickwork or concrete, placed at intervals. Differing materially from any of the foregoing is the "D.C.L." machine, B, 10, which builds—as it travels—solid or cavity walls with the necessary ties, in one operation, *in situ*.

While considering the application of concrete block construction to the erection of houses, attention may be drawn to the Economic Eaves Company's invention (Stand No. 36, Row B), which is a combined cornice and gutter of re-inforced concrete, so designed as to embody a tilting fillet for slates or tiles, an abutment for rafter feet, and a horizontal bearing for wall plates. It is of monolithic construction, and may be made in any length.

Asbestos Cement Products

The uses to which asbestos-cement are applied in modern building work are probably only equalled in number by the variety of forms it may be made to assume in the process of manufacture. It is particularly adapted for roof coverings, either in the form of tiles laid diagonally and horizontally, or flat and corrugated sheets, where its employment effects appreciable economies in roof scantlings on account of its comparatively light weight.

As an alternative material in place of lath and plaster for walls, partitions and ceilings, as well as for external linings to framed buildings, asbestos-cement sheets have definitely proved their value, not only in that the material itself is weatherproof and durable, but also because it is so easily handled and rapidly erected. It has, in addition, the great merit of expediting the occupation of dwelling houses, as a room lined and ceiled with it may be used immediately it is fixed. Plastered walls, on the other hand, must be allowed time to dry out. If the material is used as a wall or partition lining, the joints may either be covered with plain or moulded wood strips, or merely filled with any of the usual hard water paint stopping and rubbed down to a smooth finish when dry. Asbestos-cement sheets may be painted, distempered, enamelled, or even grained, but it is advisable to prepare them first with a good coat of priming, boiled linseed oil, or silicate of soda.

The use of asbestos-cement sheets for external linings to framed structures is likely to increase, now that pebble-dashed cement and rough-cast are found to readily adhere to them. Visitors to the exhibition may inspect two panels respectively treated with these surfaces on opposite sides of the half-timbered pavilion shown by the British Fibrocement Works, Ltd., on Stand No. 85, Row E.

As has already been mentioned, there are numerous other forms applicable to buildings in which this useful material is now being manufactured, such as rain-water pipes, eaves guttering; and pipes for gas, water, or sewage.

One of its latest applications—to be seen at the same stand—is for flooring, where sheets ½ in. thick are screwed to wood joists spaced at 2 ft. 4 in. centres. In addition to the firm already mentioned, specialities manufactured from this

material are exhibited by the following companies: The British Roofing Company, B, 9a; W. Pattison and Successors, B, 31; the British Uralite Company (1908), Ltd., E, 91; the British Everite and Asbestilite Works, Ltd., E, 73; and G. R. Speaker and Co., G, 132.

Lath and Plaster Substitutes

As the important group of specialities variously prepared from asbestos-cement sheets, which fall under this head, have been already dealt with in the section devoted to asbestos-cement products, we will now consider several makes of wall-board serving a similar purpose, but containing neither asbestos nor cement. These are for the most part manufactured from wood, and consist of large sheets which can be readily fixed to battens, studs, or joists, thus entirely doing away with the need for lath and plaster.

Wall-boards are especially valuable where rapid construction is of primary importance, and their use as internal linings in newly erected buildings certainly enables them to be occupied much sooner than would be the case if the walls, partitions and ceilings were lathed and plastered in the ordinary manner. The fact, too, that the process of manufacture imparts to this material a very considerable inherent strength and lightness of weight, makes for a direct saving in timber, which need not be of such heavy scantlings or so closely spaced as would be necessary in the case of the traditional plaster finish. These are matters of great moment at this time of scarcity and enhanced prices, and will not be overlooked by the discerning architect. It should in addition be remembered that the handling and fixing of wall-board does not call for a great deal of skill on the part of the workman, who, moreover, could cover the walls and ceiling of a room with this material and leave it ready for use in a far less time than he could plaster it.

Wall or "building" board, as it is also called, is fixed with an interval of $\frac{1}{8}$ in. between the edges of the panels, this joint being covered with a plain or moulded strip of wood. The exercise of a little ingenuity in the spacing of the cover strips and the proportioning of the panels will produce very satisfactory decorative effects both for walls and ceilings. Instances of the results which can be obtained by the application of this material may be seen at the stand (E, 87) of the Beaver Board Company, Ltd. This company's product is a pure wood fibre board about 3-16th in. thick, and is supplied in widths of 36 in. and 48 in., and lengths of 8 ft., 9 ft., 10 ft., 12 ft., 14 ft., and 16 ft.

Another well-known and reliable make of building board is "Fiberlic," shown by Messrs. Macandrews and Forbes, Ltd., at Stand No. 66, Row D. It is made from a fibrous root found in Mesopotamia, and supplied in widths of 32 in. and 48 in., and lengths of 6 ft., 7 ft., 8 ft., 9 ft., 10 ft., and 12 ft., the thickness being the same as that of Beaver Board.

Venesta, Ltd. (Stand E, 89a), exhibit veneered wood panels of three plies cemented together under pressure with a waterproof composition. Any desired wood may be obtained as a finsh, and the surface may be stained, painted, distempered, oiled or polished. These ply panels, though only 3-16th in. thick, are of wood throughout, and are not synthetically manufactured.

Differing in a marked degree from the three specialities above described, is the "Thistle" plaster board, which is a plaster-coated board of a strong and durable character. It is made in sheets 32 in. × 36 in., and is nailed direct to studding spaced at 16 in. centres. If covered with a thin finishing coat, or with "Thistle Hardwall Plaster," a smooth jointless surface is obtained. This material may be seen at Stand No. 166, Row J.

Flooring

Much attention has been bestowed in recent years on the production of mastic floors which can be laid *in situ* on such varying surfaces as brick, concrete, wood, old flags, and iron or steel. There are two exhibitors showing floors of this description, that of Messrs. C. W. Langman, Ltd. (D, 65), being particularly resilient and warm. This floor, which must be laid on a bone-dry foundation, will take a high polish after treatment with a good wax-turpentine solution.

The other composition floor on view is the "Thermos" (B, 23), which has cement for a basis, and contains cork among other ingredients. While the "C Thermos" flooring can be laid on green concrete, the "Thermos" Magnesit variety can only be applied to perfectl dry surfaces. These floorings may l either laid *in situ* or in the form of tile in which latter case they are bedded an jointed in cement and sand.

Rubber and "Rublino" tiling fc floors may be seen at the stand (No. 5 Row D) of the Leyland and Birminghar Rubber Company.

Miscellaneous Substitutes

A very cleanly finish for the walls kitchens, bathrooms, lavatories, etc., provided by "Emdeca" sheets, whic consist of flexible zinc embossed an enamelled. This material is fixed b means of a special adhesive paste prepare by the company, and must not be applie to any but perfectly dry wall surface The effects produced, and numerous de signs in which it may be had, are show on Stand No. 143a, Row H.

One of the novelties of the exhibition the Slate Surfaced Strip Shingle, whic originated in America, and is intended fc use on either sloping or vertical surface It may be seen at Stand No. 9, Row B.

Messrs. W. Briggs and Sons, Ltd. (Ba No. 26, Gallery), exhibit a substitute fc lead in the form of a canvas-cored bitu men sheet coated with mica. Th material can be used in all situations i place of lead, such as gutters, flashing flats, aprons, etc., at about a quarter th cost of the genuine article. The mic surface is found to protect the bitume from the sun's heat.

We are informed that Sir Robert Ma Alpine and Sons, the well-known co tractors, employed this substitute for th whole of the Slough Depôt buildings, c account of the scarcity and high cost lead, and that it proved an entirely sati factory alternative.

The Cement Gun

This ingenious apparatus is capable many and diverse applications, the pri cipal among which is that of directir cement and sand—hydrated at the poi of application—to framed structures wi metal re-inforcement or even tarred fe between the constructional units, and forming a strong wall or roof, both e peditiously and economically. It is exh bited by the Ingersoll-Rand Company, Stand No. 16, Row B.

4.—Fireproof and Fire-Resisting Materials

By H. V. MILNES EMERSON, A.R.I.B.A.

IN the construction of walls, external and internal, various materials are exhibited from brick to modern methods of construction in hollow clay ware, artificial stone, and concrete in a variety of forms. The fire-resisting qualities of these materials are well known.

When materials of a more or less inflammable nature are employed the question arises how to reduce the fire risk. Where timber is used for walls, externally or internally, the coating of some with a chemical such as that supplied by the Torbay and Dart Paint Company should prove effective in retarding a fire for some time, and would in many cases enable measures to be taken to deal with the conflagration before any serious or extensive damage had been effected. This "Quelling" has also the properties of hardening the timber, and being available in any desired tint, makes a very effective finish. Many makers are exhibiting asbestos sheeting, etc., and walls with this material, both externally and internally, can be finished in an effective manner. Their fire-resisting qualities are well known.

Other suitable wall materials are wall-boards such as Fiberlic, Upson, and Beaver boards. These boards are good fire-resisters, and can be effectively used in the treatment of interiors.

Steel windows in standardised sizes for housing schemes, etc., in the place of wood frames and sashes add to the fire-resisting properties of the building.

Doors constructed in steel, with fire-proof filling, for use in private and public buildings, factories, etc., are exhibited by Fireproof Doors, Ltd., whose produc show what can be done in the way making these fittings ornamental as w as useful.

Floors and flooring materials a numerous, including the ferro-concre and hollow block systems of flooring. floor covering exhibited by the Oil Tru Ltd., would form a very suitable flo covering, and could be used for t covering of old and worn wood floors warehouses, etc. It should prove cheap than renewing the wood floor, and wou provide a firm and fire-resisting floor the same time. The tenaciousness of t material ensures perfect adhesion with t old wood flooring.

The use of fire-resisting materials furniture and fittings for use in offic etc., is shown as the Art Metal Constru

tion Company's exhibit, where various articles of furniture can be seen; whilst Messrs. John Tann have an exhibit of many fire-proof fittings, including their well-known safes, many of which have before to-day emerged intact from many severe tests.

A common cause of fire which has resulted in the destruction of many historic buildings amongst others in this country is caused by the ignition of timber near or in the ordinary fireplaces and chimneys. In this connection the exhibit of the Davis Gas Stove Company, who have erected one of their "Nautilus" gas fire flues, is interesting, and amply demonstrates the small amount of heat that passes through the flue. Of course, modern buildings would not invite disaster by having timber built into the fireplaces; but very few ancient houses are free from this fault.

5.—Paint, Colour, Varnish and Kindred Industries

By ARTHUR SEYMOUR JENNINGS, F.I.B.D.

THE principal difficulty to contend with in the paint and kindred industries during the war was the shortage of essential products, such as white lead and linseed oil, both of which could not be used except by special permission, and practically the whole of the stock was used up between 1915 and 1919. To make matters worse neither of these materials could be manufactured. As regards pig-lead, this was required for ammunition. Then, of course, there was very great difficulty in getting supplies of turpentine, and equal difficulty in the case of its best substitute, viz., "white spirit." Nearly all the raw materials used in paint manufacture were difficult or even impossible to obtain, including certain dyes formerly imported from Germany, tung oil from China, and the various gum resins used in the manufacture of varnishes. It happened, however, that at the beginning of the war stocks were fairly large, and had it not been for this manufacturers would have been compelled to close down.

This condition of things taught some valuable lessons. Take, for example, the question of ready-mixed paints. Decorators as a class strongly object to the use of such paint, and architects and builders have frequently the same prejudice against them. White lead not being available, it became necessary to use such stocks of ready-mixed paints as were on hand, and the results were so satisfactory whenever high-class goods of this character were employed, that much of the prejudice was swept away. It is quite certain that many decorators and architects who used ready-mixed paints for the first time will never go back to the system of mixing white lead in the fashion which heretofore prevailed. The subject is of such importance to all who are concerned in the preservation of buildings by means of the application of paints that it may be briefly considered here in its most essential points.

In dealing with a subject of this kind it is always advisable to inquire closely into the objections which may be advanced; among these are, first, that in a ready prepared paint there is no guarantee as to what such paint is made of. Secondly, that a paint may have been in stock for several years and have become "fatty," which would mean in effect that it was not suitable for painting ordinary work. The third and most important objection is that ready-prepared paint must of necessity be of a constant or uniform composition. In painting all work it is very necessary to vary the quantity of oil and turpentine used, according to whether the surface to which the paint is to be applied is or is not absorbent. Obviously, the amount of thinners required in a paint which is to be applied to iron will be very much less than in the case of a paint to be applied to plaster. As a matter of fact woods vary very considerably in their absorption quality, and the painter who mixes his own paint makes a due allowance accordingly.

How then, it will be asked, can we meet the objections raised against them? First as to the composition. It is not necessary that a decorator should know precisely the composition of the paint he uses. What the decorator does want to know, equally with the architect and the property-owner, is how and what a paint will do, and particularly how long it will last. As a matter of fact, a paint which is made from an admixture of two or more pigments in the proper proportion will last much longer than a paint made from a single pigment. For example, approximately 66 per cent. of white lead, 33 per cent. of zinc oxide, and a small proportion of an inert material will give a far better result than either the lead or the zinc used by itself, provided, of course, that pure linseed oil and pure turpentine are used as thinners. All mixed paints are made from several pigments; never from one. Colouring matter may be added without affecting the question. There is, of course, a lot of very inferior ready-mixed paints on the market, mostly without any name of manufacturers, but on the other hand there are dozens of brands of really high-class paints of this character which may be relied upon both for composition and durability.

Now as to the question as to varying the amount of thinners according to how far surface is absorbent. It will be observed that this objection only applies to the first or priming coat, because when that coat is dry it is to be assumed that it will have provided a surface upon which a subsequent coat may be applied wholly without further absorption. A can of ready-mixed paint when set at rest for a few days will be found to have much of the oil and turpentine floating on the top. If, therefore, the paint is to be applied on a non-absorbent surface some of these floating thinners may be poured off; if, on the other hand, the surface requires it, more oil and turpentine may be added, and the original paint being fluid the admixture can be made in a very few minutes.

The fact is, given good materials, paint may be mixed by the aid of machinery, and a good paint produced at a small price. It takes a considerable amount of time to break up stiff white lead and to make it into a paint. By machinery 100 gallons could be mixed in the time that a painter would take to mix a single gallon. The reputable firms of paint manufacturers have placed on the market certain ready-mixed paints bearing brands or names which have become very valuable as indicating a certain high value. They could not afford to endanger the reputation of these goods by using inferior materials in their manufacture.

Another outcome of the conditions prevailing between 1914 and 1919 was the production of what may be termed semi-mixed paints. It must be remembered that the painter gets now nearly 2s. an hour where he formerly received only 8d. The question, therefore, of saving his time as far as possible is an important one. As the work of breaking up lead takes so long, and as there is still a prejudice in some quarters to the use of ready-prepared paints, at least two manufacturers have adopted a happy mean, by producing a paint in semi-paste form, so that half the work of mixing is done. One firm produces pure white lead in this state, and the other a mixture of two-thirds of lead and one-third of zinc; colour and thinners can, of course, be added as may be required.

Recognising the necessity of keeping down the cost of labour, many architects are now using white and coloured enamels for outside work. Here, again, there are many different varieties, and we shall be inclined to think that the highest priced are the best. This is, of course, but a rough way to estimate, but in the result it will not be found far wrong. All high-class enamels are made from a single pigment—zinc oxide—excepting when coloured, when the necessary colouring matter is added. The gloss is obtained partly from varnish, but more frequently from a specially treated linseed oil. A good enamel should last outside at least seven years, and during that time it should be washed down, say, every twelve months, and would always look bright and clean. At the end of the seven years the gloss will have to a great extent gone, but when the surface is cleaned it will be quite ready for re-enamelling. The undercoats of enamel should not be white lead, but a zinc sulphide pigment known in the trade as "lithopone."

Speaking of zinc oxide reminds one of the somewhat extraordinary position which had been created during the war. In 1913 zinc oxide was used almost exclusively by paint and enamel manufacturers in the production of ready-mixed paints and enamel. During that year 49,800 cwts., value £54,866, were imported, none was made in this country. Now it happened that for several years prior to 1913 a campaign in favour of zinc oxide had been conducted through the Press showing its good qualities as a paint material, particularly the fact that it is non-poisonous. Then came the Departmental Committee appointed by the Government to inquire into lead poisoning in the house-painting and carriage-painting trades. This report, it will be remembered, recommended that the use of white lead be prohibited, owing to its poisonous qualities. The result has been the establishment of several zinc oxide factories in this country. The present output of the pigment made in this country will soon be sufficient to meet all demands. At present zinc oxide cannot be imported excepting by special licence. It is very likely that after twelve months or so this restriction will be removed and possibly a small duty be placed on imported zinc oxide so as to give the home manufacturers an opportunity to get on their feet. It is hoped the market will be free, which will mean that the price will be certain to drop.

Turning now to another part of this subject, it is good to observe that the use of stains made from certain coal tar products is increasing rapidly. During the war the manufacturers were handicapped for raw materials, but now are able to supply these goods quite freely. As pointed

out in these columns recently, stains referred to are very acceptable from an artistic standpoint, being made in half a dozen colours, none of them very bright. They give effect which can hardly be produced by any other means. Of course, their chief merit, however, lies in the fact of their admirable preservative quality. These stains must not be compared to paint, as they are of an entirely different nature. They preserve because they penetrate the wood to which they are applied, while the paint lies on the surface, and the oil alone penetrates, and that but to a short distance. The reader who is in doubt should apply a little of the stain to a piece of raw wood and then cut it across. There is no doubt a certain quantity of benzol contained in these stains, and that product has remarkable penetrative qualities; the fact that these stains may be applied by unskilled labour is, under present conditions, a distinct advantage. Common unskilled labour is costly enough, but skilled labour has reached a fancy price.

To summarise, between the Building Trades Exhibition of 1913 and that of 1920, the outstanding facts are a remarkable increase in the use of high-class ready-mixed paints and enamels, the setting up of important manufactories of zinc oxide in this country, and the increase in the use of stains on exterior work.

6.—Gas Equipment

HOUSING is booming. This was one's impression when visiting the exhibition. Architects, builders, etc., have shown themselves keenly alive to the requirements of the moment, and the manufacturers of gas apparatus have not lagged behind, the adaptation of gaseous fuel to the service of the home having undoubtedly received their most careful consideration.

Modern thought calls for a far different standard of comfort, hygiene, etc., in workers' houses than was the case a few years ago, particularly as regards labour-saving devices and a readily obtainable supply of hot water. In this connection the gas industry can safely claim that it has produced appliances and systems which must result in gas playing a far larger part in all houses—and especially those to be occupied by what are known as the working classes—than it ever did in the past.

Cooking.

The gas cooker will probably prove to be practically ubiquitous in housing schemes. Mrs. C. S. Peel, a member of the Women's Committee appointed by the Ministry of Reconstruction, has mentioned that she had collected letters from working women giving their views as to the necessities of the comfortable home, and among the necessities mentioned was "a gas cooker in every house." The gas industry has readily responded to such an unqualified and, from their point of view, satisfactory demand, by producing a type of gas cooker that is eminently suitable for the working-class home, or, indeed, any small-sized house or flat.

The type which appears most suitable for many housing schemes has a hot-plate of rather greater width than depth provided with two boiling burners and a grill burner capable of manipulation for use either as a powerful boiling burner or for grilling. All burners are easily removable for cleaning purposes, and a plate-rack and enamel backplate are provided for utility and hygiene. The oven, capable of cooking for about six persons, is raised several inches from the ground on legs or a stand, to lessen the necessity for stooping and to enable the housewife to keep the floor surface clean. Cookers of this—the "Bungalow"—type were installed throughout at the Roe Green, Hendon, Housing Scheme, and are being used in the houses converted into flats by H.M. Office of Works in London.

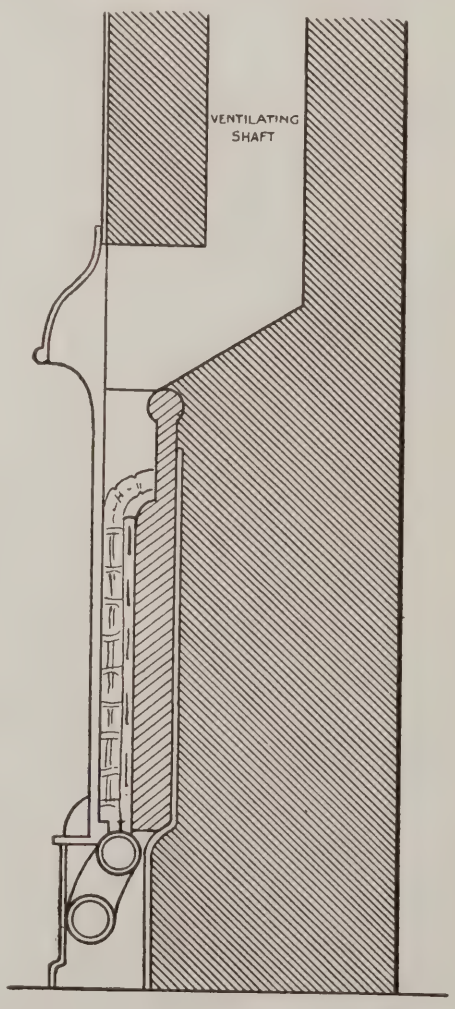
When considering houses of a better class we have a very varied and excellent assortment from which to choose.

Gas Coppers.

The gas-heated portable copper is a most useful and labour-saving appliance which greatly mitigates the terrors of washing day. The fuel cost is very low, because it is only used intermittently. The latest patterns show very great improvements, among which is the substitution of a loose wooden lid for the old hinged metal one. This lid may be reversed and when upside down the underside provides a flat surface on which clothes may be rested to drain, etc. The "Novo" gas copper, exhibited by John Wright and Co., also has a specially constructed burner, which spreads a sheet of flame around the bottom of the pan, ensuring very good flame contact, and therefore efficiency. Gas coppers specially suitable for housing schemes have a cast-iron exterior and a bower-barffed (rustless) interior pan.

Gas Fires.

Probably the greatest advance in housing equipment has been made in connection with gas heating. One might be pardoned for prophesying that we are on the eve of a revolution in building construction in conjunction with gas heating, and, indeed, it may be claimed that the revolution has already begun. A number of years ago gas fires were made of what is known as the "built-in" type, and the gas industry then asserted that it was wasteful, first to instal a coal grate in a room that was to be intermittently heated, and then subsequently to fix a gas fire in front of it, thus involving the uneconomic principle of installing two appliances for the one purpose, one of which would probably never again come into use. This theory met with great success, and in a number of cases when houses were being erected or reconstructed, the coal fire chimney openings were fitted with "built-in" gas fires, instead of coal grates. This custom was increasing when war broke out, but during the war a new and advanced theory was brought forward. Why not, in such cases, also reduce the flue area, and thus save more money, labour, material, etc.? This theory, the writer, among others, has preached in and out of season, and it is now bearing fruit.



SECTION SHOWING GAS RECESSED FIRE.

In a few words, it comes to this. The houses being erected under the Government scheme should have one solid fuel fire and the rest gas fires. Tenants probably could not afford to pay for a gas fire burning sixteen hours per day in the living room, and in the winter, if a coal or coke fire were used it would warm this room, cook, food, and heat water, while in the summer labour, dust, and dirt would be saved and greater comfort obtained by using a gas cooker and gas water-heater. But, as regards the other rooms, how frequently and for how many hours are fires needed in the average working or lower middle-class house? Perhaps in the parlour for an hour now and again, or for a few hours on a Sunday. It costs almost as much for kindling wood alone nowadays to light a coal fire as it does to burn a gas fire for one hour.

In how many thousands of bedrooms, too, are cheap coal fire interiors fixed that are never used from one year's end to the other? Not that the housewife—even of the working class—would not like the chance of a fire at a very low fuel cost for a few minutes night and morning when dressing, particularly for the old folk, but simply because with coal grates it is unobtainable, and the labour of lighting and cleaning up the mess simply cannot and will not be faced. Gas companies are fixing an ever-increasing number of gas fires for working-class people who use slot meters, then why not fit gas fires in new houses to all rooms which are intermittently heated? £30 to £40 per house can then be saved.

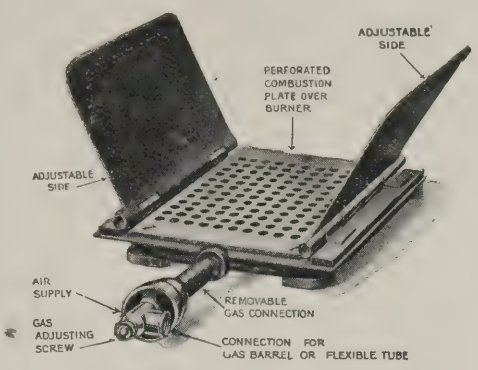
The products of combustion from gas fires are vaporous and are not laden with solid particles. The flue area always remains constant, and is not reduced by soot, as is the case with a coal fire. Gas fires can, therefore, be fitted to flues or ventilating shafts constructed within the thickness of the walls—even within a 4½-in. wall. Allowing a margin for ventilation of the

om, they only need flues from 9 in. by in. up to 12 in. by 3 in.—or flue areas rresponding to these dimensions—cording to the size of firefront and the om, and such shafts can be made either brickwork or concrete blocks. A sec-on of a gas fire recessed in a 9-in. wall th shaft above, into which it ventilates, shown on page 534.

Houses erected in this fashion do not ed chimney breasts, skewback arches id trimmers, while brick footings and undation concrete are reduced and imney stacks either eliminated or made naller, 5,000 less bricks per cottage are eded, or less concrete is required, and bour is also reduced. An additional and no means unimportant advantage is at greater floor space and cubical air ace are available on the same ground ea.

Dr. Addison, Minister of Health, in ening the exhibition, made the follow-g remarks: "One great difficulty, to-ards the solution of which all those con-rned in the exhibition could contribute, as the question of cost. He had been oking out for many months for practical id useful suggestions towards solving the fficulty." He said the fact was there as work for two men, and only one man as available. Their housing alone was fficient to absorb practically every brick-yer in the country. He urged the en-couragement of alternative methods nstruction.

The hygiene of gas heating has been cepted by scientists, medical officers of alth, etc., and gas fires are largely in-alled in hospitals, tubercular dis-nsaries, and in the homes of medical ientists themselves. A daily contem-rary recently contained the following riking paragraph: "The Medical Officer Health to the Diss Urban Council, re-rting on proposed houses, advised the ouncil to build them without chimney-acks and fireplaces. He suggested that s and other means of cooking and heat-g should be provided for, as in twenty



REFUSE DESTRUCTOR FOR USE WITH COAL GRATE.

years there would be no coal for domestic use."

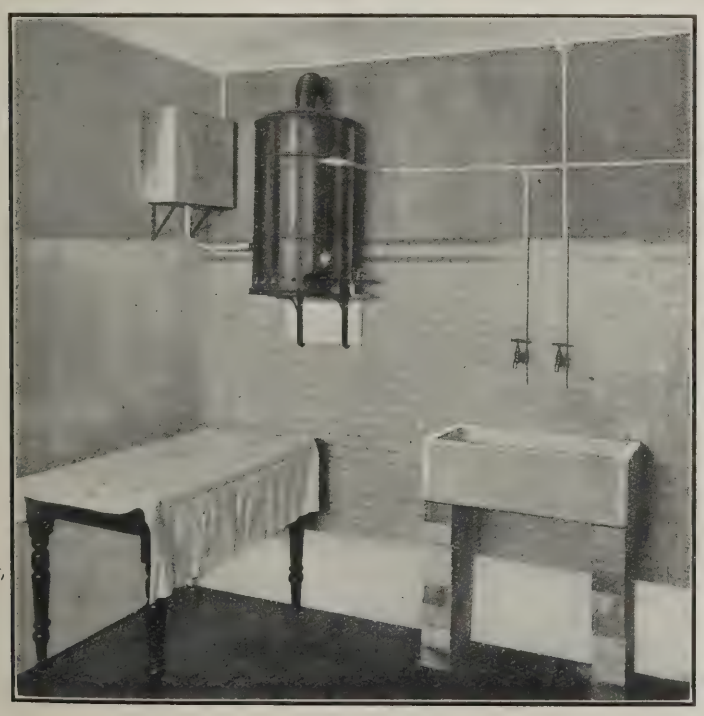
Mr. J. W. Swain, at the Rowntree Garden Suburb, New Earswick, is building a number of houses with gas fires and economy flues constructed in cavity walls, saving, as he estimates, about £42 per house. A block of offices is being erected in Tenter Street, Moorfields, London, with all "built-in" gas fires, and flues in the thickness of the brick wall, £180 being saved thereby. Other houses have been or are being thus constructed or planned, and the principle is extending very rapidly indeed. Leading gas stove manufacturers have produced "built-in" fires, priced at mass production rates, for housing scheme economy flue purposes, notably, Fletcher Russell and Co., Ltd., the Parkinson Stove Company, Ltd., and the Davis Gas Stove Company.

Gas Water Heaters

A very great extension of the use of these most convenient appliances is being experienced by gas companies, and their installation in many housing schemes is assured. For instance, they were installed throughout at the Roe Green scheme previously mentioned. New styles and patterns have been designed to fill the needs of the moment owing to the women's demand for hot running water in every house, without excess of labour.

If the one solid fuel fire in the living room be adopted, the back boiler provides all the hot water necessary in the winter, when a fire is burning. In the summer, when the water temperature is already high, it costs very little indeed to heat the water by gas, both for sink and bath purposes, therefore, the ideal installation is a boiler behind a solid fuel fire, joined up to the storage portion of a combined gas boiler and cylinder, many patterns of which, supplied by realiable manufacturers, are on the market. The gas apparatus should have a cut-out valve by which a small quantity only can be heated when required for the sink and a larger quantity at will for bathing purposes. With such an installation, it must be borne in mind that there is no storage cylinder to be bought and separately fixed; it is all contained in the gas apparatus.

The principle of heating at a very low fuel cost the gallon or so of very hot water, so frequently needed by the housewife for scullery purposes, has been specially referred to by the Women's Advisory Committee in their report, and this should enable housing authorities and architects to decide to instal gas water-heaters. One such water-heater, known as the "New Cottage," is being installed by H.M. Office of Works throughout all the houses in London being converted by them into flats. A pailful of very hot water is obtainable in a few minutes for a small fraction of a penny, and a bath at less than 2d. with gas at 5s. per thousand cubic feet. Such an apparatus fitted in a scullery is illustrated below.



GAS WATER HEATER FITTED IN SCULLERY.

Refuse Destruction

The nation has suffered in health latterly, and various epidemics have raged and carried off a number of victims. We are paying the penalty for having failed to observe one of the principles advocated by all sanitary scientists, who have for years recommended the destruction of kitchen and household refuse by burning. During and since the war, refuse has not always been satisfactorily collected—result, a plague of disease-disseminating flies, bred largely in and around dustbins, or at least carrying germs from this source into our houses and on to the food in our pantries and on our tables, etc.

For a very small consumption of gas, refuse can be entirely destroyed. Until such a principle is universally adopted—except, of course, in rural areas, where it may be buried or used for feeding fowls or pigs—we are really to this extent living in a primitive fashion. The expense of installing one of the small self-contained gas-fired destructors is well within the means of the average householder, but for housing schemes with coal ranges, if such an apparatus is not installed, there is now an alternative, a patent apparatus, an illustration of which is shown above, exhibited by the Davis Gas Stove Company. It is the cheapest possible form of gas-fired refuse destructor, and needs no flue pipe. It is designed for readily fixing inside a coal grate, having adjustable sides to correct any difference in width between itself and the sides of the fire box, in which it is fitted. In the winter the coal fire will destroy the refuse and in the summer the inset gas-fired refuse destructor can be readily fixed with a flexible tube connection and used at a very low cost until the cold weather again comes, when it can as easily be removed.

H. H. C.

7.—Electrical Equipment

By S. M. HILLS

IT is to be regretted that the electrical exhibits were not more representative —those that there were, were good, but it was noticeable, for instance, that there was no display of surface wiring systems, or multiple way switches, and that electrical cooking appliances were confined to two makers.

Many pleasing styles of lighting fittings were in evidence, not only as portions of exhibits, but also on the stands of exhibitors who neither sell nor make such fittings. It is evident that the half watt lamp has increased the popularity of both indirect and semi-indirect lighting systems. The intense white heat emitted from the comparatively short filament of the half-watt lamp makes efficient shading a necessity. Indirect lighting by means of reflection from the ceiling, or semi-indirect lighting by the employment of translucent glassware prevents all possibility of glare or eyestrain being caused by the naked filament. Further, bowl type reflectors afford a very convenient means of overcoming the disadvantage of the somewhat long neck which has to be provided with the larger sizes of half-watt lamps, and which, from an artistic viewpoint, it is desirable to hide as much as possible.

Indirect lighting naturally means some loss of efficiency, but the reduction in current consumption per candle-power occasioned by the half-watt lamp prevents this loss in efficiency being a very serious matter from a running cost point of view.

The Holophane Co., Ltd., are showing a complete display of scientifically designed glass shades and reflectors, and special types have been prepared to give extensive, diffusing, focussing, or intensive lighting effects, according to the nature of the room to be illuminated and the height of the ceilings. There are also special reflectors for use in connection with concealed lighting for shop windows, and for use with half-watt lamps. Concealed lighting with correctly designed reflectors enables goods in shop windows to be well lit and at the same time adds to the comfort of the shopper by the absence of glare and enables the goods to be more effectively displayed.

A new type of glassware of Canadian origin is shown by Messrs. Underwood (Manchester), Ltd., and known under the brand name of "Moonstone." The absorption of light by this glassware is comparatively small, and a uniform, restful diffusion of light is obtained. The effect obtained very closely resembles daylight, and the light reflected is white in appearance. Many styles and types of shades are made in moonstone glassware and also suitable fittings of ordinary or period design.

There has been a growing tendency to employ silk shades, both for small lamps and also for half-watt lamps; in the latter case the glass bowl reflector being replaced by a silk shade of similar shape suspended from the ceiling by means of silk chords. Any scheme of decoration can be harmonised by this method and a very soft and pleasing illumination obtained. Some shades of this character were shown by Messrs. F. and C. Osler, Ltd., and also a very large range of artistic glassware and lighting fittings.

In connection with munition works canteens, and naval purposes during the war a great impetus was given to the use of electric cooking appliances, and consequently such apparatus is now much more reliable, and many of the early difficulties and troubles have been overcome. Table-cooking appliances in the form of kettles, toasters, grills, etc., are manufactured in this country to a very much larger extent, and are as well finished and carefully designed as the American apparatus of a similar kind. The tendency is more and more toward the use of radiant electric heaters, the older type of convector radiator being only employed for special purposes where convected heat is more advantageous than radiant heat. The Carron Company are showing a variety of types of radiant heaters both of a portable character and also suitable for permanently fixing to existing chimney breasts. A Carron electric range is also shown and a number of smaller electric cooking appliances. Similar apparatus was exhibited by the Metropolitan-Vickers Electrical Co., Ltd.

Considerable progress is taking place in connection with electric vacuum cleaning, not only in the form of small power machines for home and office use, but as larger plant for hotels, theatres, cinemas, and factories. The Sturtevant Engineering Co., Ltd., are showing a stationary turbine vacuum cleaning plant for industrial use. The exhauster in this plant is of the multi-stage fan type, and consists of a series of turbine wheels mounted on a shaft, and the volume and speed of the air exhausted is automatically increased according to the number of nozzles in use at one time. The nozzles can be connected to connection points distributed at convenient positions around the building. By this method cleaning can be effectively and quickly carried out without creating dust, and nozzle fittings are provided suitable for use on various types of flooring—i.e., lino, carpets, etc., and also for clea ing curtain hangings and upholste Where the cleaning to be done does r warrant the use of a somewhat large s tionary plant, portable plants of a simil character can be employed.

The increased use of motor cars a motor cycles has led to a much wider knc ledge on the part of the public concerni the running and upkeep of oil and pet engines. Hence the popularity of the sets, which are supplied practically co plete on one bedplate or ready for mou ing on slide rails or H section girders. large number of such sets are designed start up on petrol and then to run paraffin. In conjunction with surfac wiring systems they form an economic and convenient method of installi electric light in houses where a pub electricity supply is not available. Mess R. A. Lister and Co., Ltd., and Vicke Petters, Ltd., show sets of this charact

Where electrical conduit, casing, surface cable wiring has to be fixed to t walls of a building considerable labo costs are sometimes entailed in cutti away for fixing suitable wood plugs. T ingenious device known as the Rawlplu and shown by Messrs. The Rawlplug C Ltd., offers a means of reducing the co and time spent on work of this natur These plugs are essentially small wood tubes made to a variety of sizes to s various sized screws. A small hole bored in the wall by means of a speci plugging tool, which cuts a hole of t size to ensure that the rawlplug fits tight The screw can be screwed home into th plug quite easily. As the screw goes hon it expands the tube, thus making a ve tight fit, and it is claimed that a No. 1 ¾ in. screw will withstand a straight pu equal to 500 lb., when so fixed in a ha brick wall.

STAND OF THE MONITOR STOVE CO.

(For notice of Exhibit see page 491 of last week's issue.)

8.—Sanitary Goods

Most of the sanitary engineering firms ve been engaged in the manufacture of spital appliances during the war, so little t is new is to be looked for at the exition. Indeed, many of the large firms not showing at all.

Of the firms present, however, Messrs. oulton and Co.'s stand is particuly worthy of attention. Their exhibits e shown in a series of luxuriously fitted throoms.

A new "silencer" quite recently brought t by them, consisting of a valve which n be fitted to any water-closet cistern, is nple and effective, and there should be large demand for it.

Another feature is the revolving nozzle bath taps, enabling the tap to be swung twards over the side of the bath for the ing of buckets, etc.

Messrs. W. R. Pickup and Co. (Norch) show a good range of baths and vatory basins, and their porcelainamelled taps are of excellent design and ish.

Messrs. H. Pontifex and Sons, Ltd., so have a display of baths with porcein-enamelled taps. Indeed, this easily eaned fitting will probably entirely replace e brass and gunmetal, or even the vered fittings. Their pedestal drinking untains are neat and hygienic.

The Patent Tip-Up Bath Company show very light bath which, when not in use, n be tipped up into a small cupboard, hich also contains the geyser. It can be stalled in any kitchen or bedroom.

The Leeds Fireclay Company, Ltd., now, among various sanitary goods, a seful non-splash basin, the splashing eing guarded against by a wide roll which ms the inside of the basin.

Though not within the category of sanitary engineering firms, the Rawlplug Company, Ltd., may be mentioned as supplying a patent plug of compressed fibre which is suitable for plugging—besides bricks, cement, etc.—glazed tiles. As a means of fixing anything in a bathroom to prevent the tiles being cracked and disfigured it meets a distinct need.

H. J.

9.—Central Heating and Ventilation

By Ambrose W. Coffin

Among the novelties to be seen at the exhibition in connection with central heating and ventilation is an apparatus which lays claim to heat and ventilate a room and which consists of a vertical tube with an internal cylinder. Air is drawn from outside through a tube into the chamber and is heated by means of a Bunsen burner and discharged through holes at the top into the room. For extraction of the vitiated air the usual methods of opening the windows or doors are adopted.

Another system which is new to this country, but which is common in the United States, consists of a large pipeless furnace installed in a basement or cellar below the hall. The apparatus consists of a large furnace with a series of air spaces round the fire-box, a water chamber to prevent the heated air which comes into direct contact with the fire-box from becoming too dry, and a large ventilating grating, or register in the floor of the hall and immediately over the furnace. The outer edge of this register receives the cold air and conveys it through the outer jacket of the furnace, and then the air is brought through to the inner jacket and is passed, warmed and humidified, through the middle part of the register in the floor into the house. The motion of the air is due to convection, or the difference in density in the two columns of air. The advantages of this system are that no pipes, air ducts, or flues (with the exception of the one flue to carry off the results of combustion) are required.

Another system is a type of furnace or boiler, similar in construction to the well-known type of heating boiler, but crude oil is the medium for heating the water instead of the usual coke or anthracite coal. There can be no doubt that for large installations oil fuel for heating water for warming has a future. Open fires with back boilers and consuming anthracite, and at the same time heating a few radiators, are also shown.

The usual types of heating boilers are exhibited, combination boilers and cooking ovens where the hot gases and smoke from the former pass around the jacket of the latter and save a certain amount of gas, inasmuch as the amount of heat that is required to heat up the oven before cooking commences is saved. One looked in vain for any serious attempt to deal with heating and ventilation upon a comprehensive scale, or to deal with the subject in connection with the housing problems. This is largely due, no doubt, to the enormous delay that exists in obtaining heating apparatus; in fact, it is not unusual to be quoted ten or twelve months for delivery for a boiler. Also, that the heating engineer, apart from the manufacturer, is too busy to spend his time and money in catering for orders which he is not in a position to execute.

How it Strikes the Experts

ALWAYS the Building Exhibition contains many inventions, new and old. But its principal function is not to exhibit familiar wares, but to show what progress is being made in the discovery of new methods and materials. To what extent the present exhibition has fulfilled this purpose is made manifest by the large number of notices of exhibits that we have given in three succeeding issues of this Journal. Specialist contributors, whose contributions on the various sections on which they speak with authority appear in the present issue, have shown what progress has been made in the departments they severally represent, and we have further thought it useful to obtain also the respective opinions on this point of (1) an architect, (2) a building contractor, and (3) a builders' merchant.

An Architect's Opinion

Our architect friend was inclined to be rather sarcastic about the form of the enquiry. "A Building Trades Exhibition," he said, "is not a bonnet-shop nor a novelty store. You do not expect building fashions to change with the phases of the moon, nor greatly with these biennial exhibitions, nor immensely after an interval of seven years. I see nothing at all in the exhibition that you can call revolutionary—except," he added, "the wheels of the machinery in motion. There are, of course, many evidences of improvement in details, but I have observed no outstanding great invention. There are many additions to the blockmaking machinery, and I notice several new systems of forming hollow walls, and of otherwise adapting cement products to the national need for housing. Heating and cooking apparatus show many minor developments in the direction of labour-saving and economy. Considerable progress in lighting methods is also observable, but it seems to me that most of the progress has been made in departments that are of more interest to the contractor than to the architect. After all, this is a Building Trades Exhibition, you know." "Quite so," we agreed, "but you and I are here, and are feeling vastly interested." "Agreed," he said: "We want to see what we can safely specify, and therefore, I suppose, very much that the exhibition holds ought to be of vastly more interest to the architect, who determines what goods shall be used, than to the contractor, who merely follows the architect's advice and instructions."

A Contractor's View

"Inventions?" said the contractor. "Um, ah! Well, yes, perhaps. Haven't seen many. Don't believe it's possible to invent much more. Everything has been done. But improvements? Certainly. Overwhelming number. Take all day to talk about them all. Scaffolding, ladders, barrows, concrete and tar macadam mixers, blockmaking machinery, road-scrapers, drain-scrapers, hoisting gear, belting. Why, it's bewildering. Then there's the cement gun—seen it? Performs twice a day. Fires up chunks of cement wall while you wait. And up in the bays they are working a patent hoist that does away with scaffolding and a crane with a telescopic mast—crane that revolves right round a circle and lifts at the rate of a hundred and thirty feet to the minute. What? And as to hoisting gear, the lift-making people are in it, and so are one of the blockmaking firms. Waygoods are showing a hoist that lifts up materials by its own power, all compact and portable, so that you needn't worry about being miles away from steam, gas, or electricity. And Wingets are showing an elevator that looks like a steam-dredger, only not so clumsy, and instead of buckets the endless band revolves a lot of neat little iron pockets. Put anything you like into them—bricks, slates, or what not—and up they go, and get there while the man with the hod is thinking about it. This busy firm is getting a bit miscellaneous, isn't it? I see that, besides its tremendous battery of concrete block-making machines, it is showing a neat thing in concrete mixers. Miscellaneous, did I say? I ought to have said 'mixed.' That is what I am getting, among all these contraptions and distractions. Jazz show, I call it. Came here to get a hand-winch. Couldn't find one anywhere in the show. Ordered an earth-mover instead. Scoops out foundations sooner than you architect chaps can run the tape over them. And dumps itself. Moves the

earth. What more do you want? But I haven't seen that bricklaying machine in operation here!"

What a Builders' Merchant Thinks

"Who says that no progress has been made in inventions? You ought to see the stock I have been compelled to scrap as obsolete! Builders are getting keener on having up-to-date appliances. Formerly they were out mainly for bargains. Now they are looking for the goods. They have learnt much from the fury of munition-making. It showed them what up-to-date machinery and appliances could do. Most of the small builders, and some of the big ones, too, are still very backward, and I don't wonder that housing is so costly, when builders are working on methods that were employed in the year one, with no appliances worth speaking of except a trowel and a hod. There is too much slovenly building, without what I should call the proper appliances; and slovenly building is dear. This exhibition would be an eye-opener for the out-of-date builder, if only we could get him here. But does he come? Only casually, and as it were by accident. My experience is that it is mainly the alert man who is keenly interested in the exhibition, because it affords him still further opportunities for efficient building. In the matter of small goods—door furniture and other hardware, and the little odds and ends about a house that make it attractive to let or sell—we used to look to the speculative builder for most of our custom, but he has disappeared—pro tem., I hope, for some of us got most of our business from him. But, between you and me, what he wanted was mostly showy shams, to look well to the pretentious but impecunious young couple who, in those far-off happy times before the war, could pick and choose their houses. Now we deal mainly with the architect, and he usually insists on solid merit in the goods. That means progress, I reckon—as regards quality, at any rate."

The Stands: An Architect's View

ALTHOUGH the level of excellence in the design of the stands at this year's exhibition hardly reaches that of pre-war days, there are many which are deserving of notice, not only on account of the care bestowed in their execution, but also for the thought shown in their inception. The stand of Messrs. Robert Johnson and Co. (Stand No. 139, Row H), which possesses at least as much architectural quality as any other in the exhibition, consists of a Georgian dining-room panelled throughout in Cuban mahogany. Externally, its Ionic columns, leaded bow windows, and pedimented doorway are extremely effective, and are examples of careful design. Good use, too, has been made of distemper, with which the walls are tinted a light stone colour.

Though widely differing in character from the last, the stand of Messrs. Ronuk, Ltd. (No. 100, Row F), is also of very high merit, both in design and execution. It consists of a beamed ceiling over an enclosed space, which has a panelled wall at one end, of excellent proportions. There are, at the opposite end, two panelled piers supporting the ceiling. The whole structure, which is of considerable dignity, is of oak, and is polished with this firm's products.

Simple in treatment as is the rectangular room in which Messrs. A. Sanderson and Son's well-known wall-papers and cretonnes are exhibited at Stand No. 99, Row F, it has an excellent external appearance, in which dignity and refinement are conspicuous. At the angles there are fluted pilasters in white enamelled wood; while the walls, which have a deep frieze above, are finished in flatted white. A well-designed casement window provides an effective contrast, and introduces an element of substantiality which would otherwise be missing in so light a structure.

The main feature of the stand (No. 151, Row H) erected by Messrs. Robert Kearsley and Co., Ltd., is a semi-circular colonnade surmounted by a domed temple, from which one looks over a forecourt to a Doric temple of pleasing proportions and detail. Taken as a whole, the design possesses distinct merit.

Proceeding to the other extreme, we have in the Kleine Company's exhibit (Stand No. 102, Row F) an example of what can be done in the direction of imparting architectural distinction to a structure by the total elimination of decoration. It contains but one open apartment, three sides of which have door and window openings, the whole being built of unplastered hollow bricks, such as are used in the patent floor associated with the firm's name. The short sides support a floor of 20 ft. span, the ends of which project beyond the walls to form an elementary type of cornice. Above the floor are open parapets of the same material, whose joints, colour, and texture combine to produce a strikingly satisfactory result.

Stand No. 92, Row F, shown by the North Wales Slate Quarries Association, takes the form of a two-roomed structure resembling the upper part of a cottage, and is from the designs of Mr. R. C. Fry. It has a gabled roof intersected by entrances with pitched roofs, one of which is hipped. Various surfaces are thus presented for the display of the slater's art at its best, the roof slopes being covered with Bangor and Port Madoc slates respectively, in diminishing courses. The panels in the half-timbered gables and walls contain herring-bone slate fillings, the whole effect—to which the swept valleys notably contribute—being entirely pleasing.

Erected for the purpose of illustrating the application of and decorative effects produced by "Solignum," the half-timbered building put up by Messrs. Major and Co., Ltd. (Stand No. 95, Row F), has a character of its own, despite its modest dimensions. The good taste shown in the design of the doors and windows and the picturesque appearance of the weather-boarded walls are points to be noted, while the microscopic formal garden, complete with tiled paths and growing flowers, is a most restful feature.

The credit for carrying out the largest and most convincing structure in the exhibition clearly belongs to the British Everite and Asbestilite Works, Ltd. (Stand No. 73, Row E), who show a double-storeyed timber-framed cottage residence, containing a living room, three bedrooms, hall, scullery, bathroom, wash-house, larder, and domestic offices. The upper storey is half-timbered, and the company's asbestos-cement products are used externally and internally for the wall coverings, and for the roof. Special reference to its erection within a very few days was made by Dr. Addison on the occasion of his opening of the exhibition.

Far less assuming than the last is the one-storeyed structure of London yellow stocks and red-brick dressings erected by the Crittall Manufacturing Company, Ltd. (Stand No. 136, Row G), which comprises a large room for the display of standardised metal windows of various types, as well as very elaborate French casement doors.

The rather ambitious structure—evidently inspired by the Nelson Monument in Trafalgar Square—which Messrs. Pinchin, Johnson, and Co., Ltd., have built on Stand No. 127, Row G, has an octagonal base surmounted by an Ionic column upon which rests a gilt ball. Plaster lions radiating from the base serve to carry a stage further the resemblance to the famous landmark.

All those interested in good brickwork will take pleasure in the modest little summer-house exhibited by Messrs. S. and E. Collier, Ltd., at Stand No. 183, Row J. Its columned porch, flat-headed and mullioned windows, and tiled roof, though perhaps not assembled with any partcular skill as regards design, owe their charm entirely to the materials with which they are constructed. These, especially in texture, are wholly admirable, and consist of 2 in. Old English and silver-grey facing bricks, Roman tiles, and hand-made moulded bricks. The joints are flush—after the Tudor tradition—and largely contribute to the artistic result achieved.

In some respects comparable with the last, at any rate as regards colour, is the small group of structures, one of which is a garden house, erected on Stand No. 104, Row F, by Messrs. Roberts, Adlard and Co. These exhibit this firm's roofing stone, tiles and slates to great advantage, and afford opportunities for showing examples of swept valley work, hipped roofs, as well as plain slopes in graduated courses. The beauty of these materials and their range of colour are quite reminiscent of the countryside.

Another exhibit which, in spite of certain minor defects in design, contains much that is dignified is the fibrous plaster pavilion built by Aspinall's Enamel, Ltd. (Stand No. 55, Row D). It has Ionic columns of good proportion, supporting an entablature which is transversely interrupted by a segmental pediment. The panelled walls are pierced by leaded lights, and the structure generally is quietly decorated with the company's paints, enamels, and distempers.

As regards the remaining stands, the majority do not call for particular notice from the artistic point of view. They are generally of a practical character, and serve merely to display exhibits in the directest way possible.

Several stands were illustrated in last week's issue.

The Exhibits Described—Third Notice

E GELATINOUS WHITE COMPANY, Ltd., Row C, Stand 34.

LL AND FRIEZE DECORATIONS.

Filocol" distempers, manufactured at efield, Middlesex, by the above com-, are exhibited at this stand, where various decorative applications may be seen. Filocol distemper in paste repared in four shades of white, cially for ceilings; the coloured dis-ers have a range of seventy-two dard tints for wall and frieze decora-s, while the dry Filocol in powder is intended for export, and will, it is ned, keep indefinitely in any climate. eed oil putty, whiting—in ball and der form—and lime for plastering pur-s are also shown.

ddress: Harefield, Middlesex.

ONCRETE DWELLINGS, Ltd., Row B, Stand 10.

ONCRETE CONSTRUCTION.

conomy of time, money and material he salient feature of the "C.D.L." hine on view at this stand. By its solid or hollow walls can be erected ne operation *in situ*; and it should efore prove valuable in connection the many housing schemes now t. It is, we understand, being used large extent for reconstruction work rance and Belgium, and in these days oncrete buildings will be interesting to e who aim at rapidity of construction he least possible cost.

ddress: 5 and 6, Great Winchester et, E.C.2.

IUEL ELLIOTT AND SONS Reading), Ltd., Row J, Stand 174.

JOINERY.

he exhibit of this well-known firm of d-workers is remarkable for many imens of high-class joinery, and will of particular interest to architects. mples of great merit, especially with rd to execution and finish, include a elled door of fumigated Cuban ogany for the London Water Board's ces, designed by Mr. H. Austen Hall, .I.B.A.; reproductions of Elizabethan elling from Sizergh Castle, an oak from Haddon Hall, and several r models revealing equal discrimina-. There are also selections of mould-s, derived from the most authentic sources, of every period, from the Elizabethan down to the time of the Brothers Adam.

In the centre of the stand has been erected the firm's speciality—the Anti-Cyclone Revolving Door. Designed on the "two-compartment" principle, this remarkable device embodies many advantages and improvements of a practical character, which have been worked out with the utmost ingenuity.

Another especially interesting exhibit is the Patent Interlocking Rail Panelling, whose unit parts are firmly held in position by shaped battens screwed to the wall. This very original invention is well adapted to panelling of small proportions, such as that of the Tudor period.

Messrs. Elliott and Sons are specialists in bank and insurance office fittings, as well as in church furniture. Their executed work includes the great west doors, and much other joinery at Westminster Cathedral for the late Mr. J. F. Bentley, architect.

Address: Reading.

THE "ECONOMIC" HOT-WATER SUPPLY COMPANY, Row F, Stand 115.

HOT WATER SYSTEM.

The Owens patent tank exhibited is a single vessel constructed of galvanised iron (it may be constructed of copper to suit the locality) with brass internal fittings. The action is: Upon opening the hot-water taps cold water is admitted through the usual ball tap, but is prevented from mixing with the hot water stored in the tank by being passed direct through the tube into the return pipe of boiler, and thereby displacing all the hot water in boiler and pipes.

Address: Pontardawe, Glam.

W. OTTWAY AND CO., Ltd., Row B, Stand 34.

SCIENTIFIC INSTRUMENTS.

Surveying, mining, optical, and other scientific instruments in a large variety of models of the latest type may be inspected at this stand. They will be found of exceptional interest to architects, engineers, and contractors, who may obtain full particulars concerning them from the company's agents, Messrs. B. J. Hall and Co., Ltd., Chalfont House, Great Peter Street, Westminster, S.W.1.

Address: Orion Works, Ealing, London.

GRAVES AND CO., Ltd., Row E, Stand 83.

ROOFING.

Messrs. Graves and Co. exhibit several varieties of their patent roofing, and show by the use of models its adaptability to buildings of various types: both flat and curved can be seen on miniature buildings, suggesting unlimited possibilities to the architect engaged in the design of factories, works, and similar erections. The makers state that their products are both fireproof and imperishable, and in support of the latter claim specimens of the actual article after ten years' use may be examined.

Address: Waterford, Ireland.

G. A. C., Ltd., Row H, Stand 153a.

PANELLING, ETC.

This exhibit is a joint one between G. A. C., Ltd., woodworking and constructional specialists, and the British Emaillite Company, Ltd., manufacturers of high-grade varnishes and enamels. The previously named company is showing several well-executed specimens of walnut panelling, period furniture, and various schemes of decoration, while the joint exhibitor submits samples of the finish obtained by the use of Emaillite varnishes and enamels for both constructional and decorative work.

Address: 5, Hythe Road, Cumberland Park, Willesden, London, N.W.10.

G. A. HARVEY AND CO. (London), Ltd., Row B, Stand 14.

CHIMNEY COWL, RADIATORS, ETC.

Architects will be interested in the new form of chimney cowl exhibited by this firm, and so constructed as to eliminate the danger of down-draught. Among various other interesting exhibits the patent tank should be of value, and the steel lockers with perforated fronts have a distinct advantage from the sanitary point of view. Those who are troubled by the difficulty of providing an attractive disguise for such things as radiators should examine the various patterns of woven wire and perforated brass, which show excellence both of design and workmanship.

Address: Woolwich Road, London, S.E. 7. Suffolk House, Laurence Pountney Hill, E.C.

WALNUT PANELLING (G. A. C., LTD.).

CLIFFORDS, Ltd., Row J, Stand 176.
WINDOW CLUTCH.

At this stand a full-sized model of a two-light casement window, with swinging fanlights over, is used in order to show the method of fixing the patent window clutch, the chief advantage of which is that windows so fitted may be entirely cleaned from the inside.

Address: St. Leonard's Street, Peterborough.

THE "APTUS" TILTER, Row E, Stand 77a.

This ingenious contrivance, which is of cradle form and stands on rockers, will support a drum containing liquid and enable the contents to be emptied out without exertion, spilling, or wasting. Complete control over the vessel is secured, and whatever its weight, no effort is required to tilt it. All users of liquids in drums or cans will find this exhibit of interest.

THE STANDARD FLAT ROOFING COMPANY, Gallery, Row B, Stand 15.
ROOFING.

Standard roofing, as will be seen from the model which is exhibited at this stand, may be employed for varying types of roof construction. It may be applied to flat roofs of wood or concrete, defective asphalte roofs, old zinc roofs, and valley gutters, roof tanks, swimming baths, and in any situation where watertight conditions must be secured.

STANLEY BROS., Ltd., Row G, Stand 131.
SINKS, BRICKS, ETC.

A very representative display of specialities manufactured by this firm is here shown, among which numerous examples of glazed bricks in various colours are conspicuous. Other exhibits comprise glazed sinks (white and cane, London fluted, and Belfast pattern) terra-cotta chimney pots in red and buff, floor quarries in 4 in., 6 in., 8 in., and 9 in.; terra-cotta air-bricks in red, buff, blue, and salt glazed; Staffordshire blue bricks in all sizes; red and blue ridge tiles, red and blue finials and terminals; salt glazed stoneware pipes; terra-cotta vases in red, buff, and glazed; garden tiles; malt kiln tiles in buff and glazed; pedestal closets, pressed firebricks, and fire tiles.

Address: Nuneaton.

BUILDING PRODUCTS, Ltd., Row E, Stand No. 77a.
REINFORCED CONCRETE CONSTRUCTION.

This company specialises in appliances and commodities directly connected with reinforced concrete construction, and exhibits at this stand a selection of the more important of them. Among these are the "Rigifix" Bolt Hanger Sockets and Slotted Inserts, by means of which machine shafting may be expeditiously fixed to beams or columns, or changed in position. Previous to the introduction of these fittings, which are embedded in the concrete during construction, the attachment of mechanical equipment involved the drilling of holes or the cutting away of finished concrete, and made it very difficult and costly to subsequently alter the arrangement and position of the shafting. Specimen lengths of beams, showing the method of fixing the bolts and inserts, and their various applications to factory requirements, are shown to actual size.

Another very useful appliance exhibited at this stand is the "Benquic" Bar Bender, which is operated by hand, and will bend cold reinforcement bars up to $1\frac{1}{2}$ in. diameter to any angle or shape required. "Bureau" Cement Concrete Waterproofing Powder, "Prufit" Cement Waterproofing Paste, "Ferrolithic" Floor Hardener, and the "B.P." Concrete Form Cream are also shown.

Address: 44-46, King's Road, S.W. 3.

WINGET, Ltd., Row G, Stand 120.
PORTABLE ELEVATOR.

The "Winget" portable elevator, one of the novelties of the Building Trades Exhibition, and an outstanding feature of Messrs. Winget's stand, is not only claimed to solve the problem of lifting concrete blocks during building operations, but to eliminate the laborious and costly task of carrying up bricks in a hod. The elevator will automatically handle and lift gravel, sand, clinker, and similar material, and empty into any wagon or truck. It is claimed to elevate fifteen hundred 18 by 9 by $4\frac{1}{2}$ in. concrete blocks, 5,000 bricks, or well over 10 cubic yards of sand or gravel per hour. The total weight of the "Winget" portable elevator is $25\frac{1}{8}$ cwt., overall width 4 ft. 6 in., and maximum elevating height 16 ft. The combined length of the two booms is 20 ft., and the height with the lowest working position 10 ft. It is driven by a 3-h.p. Lister benzol or petrol engine.

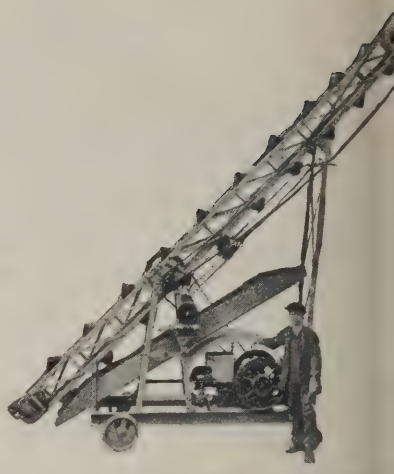
Address: 24, Grosvenor Gardens, Westminster, S.W.1.

CANDY AND CO., Ltd., Row G, Stand 133.
FIRES.

Messrs. Candy and Co.'s "Devon" fires are well known. They were placed

FIREPLACE (CANDY AND CO., LTD.).

first in the official tests carried out at the Government offices jointly by H.M. Office



THE "WINGET" PORTABLE ELEVAT

of Works and the Smoke Abate Society, a selection of other manufac shown embracing wall tiling, pa bricks, quarries, fire bricks, etc.

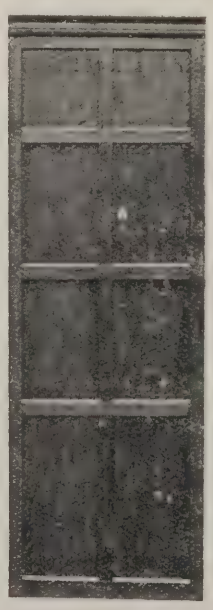
Address: 87, Newman Street, O Street, W. Telephone: Museum 1358

VENESTA, Ltd., Row E, Stand 8
PLY PANELLING.

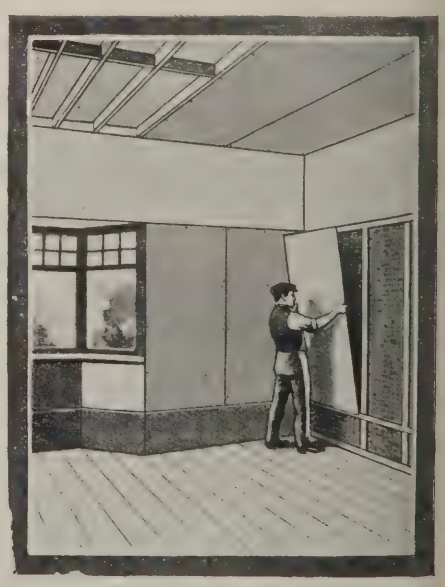
This company show charming speci of ply panels in various styles and per The parquet flooring lends itself to tas decorative treatment and the blocks sound-resisting and non-absorbent.

Venesta ply panels are claimed t germ proof and hygienic, easily fixed, once painted or distempered entai further expense for many years. may be fixed to brick walls or over plaster. For fixing Venesta ply p over brickwork rough deal battens a $1\frac{1}{2}$ in. by $\frac{5}{8}$ in. should be nailed to the to take the two edges of the panel w they join. The panels are then secure these battens with $\frac{3}{4}$-in. fine nails. joints are then covered with thin strip moulding and fastened with small-he nails. The panels are then ready for form of decoration and being thorou dry and seasoned, no preliminary prep tion is necessary.

In the case of partitions to bedro etc., or on ceilings, no back strips necessary, the panels being nailed d to the ceiling joists or partition fram



"TUDOR" OAK PANELLING.



METHOD OF FIXING VENESTA PANELLING, ETC.

e many sizes kept in stock make it an y matter to obtain various panelled ots without waste of material.

Venesta ply panels can easily be fixed r old plaster walls. In this case no k strip is necessary. The walls should plugged flush with plastering and the es of the panels nailed into the plugs. ien the moulding is placed over the its it should be nailed into the same gs. Defective plaster ceilings should hacked down and panels nailed direct timbers.

ddress: 1, Great Tower Street, London, .3. Telephone: London Wall 4760.

H. KIRK AND CO., Row B, Stand 11.

ONCRETE BLOCK MACHINE.

'he Kirk block-maker is a complete nt which makes concrete blocks to all uired sizes from a foundation to a mney cornice, including the window ds, sills, copings, steps, string courses, , up to 5 ft. long. The stones are de face down, and, as the concrete is ıped, the greatest pressure is on the e, making the block most dense at the t most exposed to the weather. The chine can be manipulated by non-led labour.

ddress: Collingwood House, St. ers, Newcastle-upon-Tyne.

E ECONOMIC EAVES COMPANY, Row B, Stand 36.

ROOF EAVES.

The economic eaves" to be seen at stand is a simple reinforced concrete n of construction invented to minimise high cost of construction at the eaves roofs. The firm claim that the ıves" save essential materials such as ber, metals, roofing and wall construc-ı; that, although the channels with ch they are lined are laid to fall, extern- the "eaves" present perfect and e alignment, adding to the appearance the building and forming a structural t bonding work together, and that they sess in addition many advantages. The ves" are patented in Great Britain, nce and Belgium.

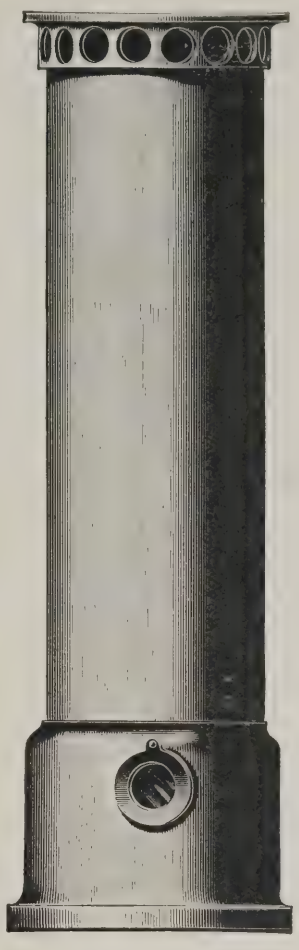
ddress: 9, Southampton Street, omsbury, W.C.1.

ILDERS' AND CONTRACTORS' PLANT, Ltd. (Bay 21).

BUILDING APPLIANCES.

'his firm are exhibiting a combined er and mixer for tarmacadam and er bituminous materials. This chine has only just been introduced, has aroused great interest. It is de in sizes to suit any demand, and is ıplete in itself, a self-loader and dis-rger, requiring but a minimum of ntion. Another exhibit which has ited the attention of visitors is the los" patent travelling and revolving ne, which has a telescopic mast, great dom of movement, and has a speed 130 ft. per minute.

ddress: 17, Victoria Street, London, V.1.



THE "VENTIHETA."

GENERAL TRADING AND MANUFACTURERS, Ltd., Row L, Stand 213a.

THE "VENTIHETA."

The firm are exhibiting the "Ventiheta," by means of which fresh air is automatically drawn in, warmed and distributed, and foul air expelled. The apparatus is claimed to keep a room of average dimensions at a comfortable and even temperature for an approximate cost of 6d. per twenty-four hours. The "Ventiheta" is entirely British, and the points claimed for it are: "Automatic action and no intricate working parts; gas consumption 5 cubic feet per hour; fresh warmed air is constantly brought into the room and all bad air expelled; effective ventilation is maintained; rooms, halls, passages, etc., are kept at a warm and even temperature without any of the dust or damage to decorations or furniture such as result from coal or other fires; accidents through carelessness are impossible, no naked light is exposed." The "Ventiheta" harmonises with any style of decoration, and if desired to meet special conditions of taste, can be closed in a polished plain or carved wooden cabinet.

Address: 6, Market Street, Bermondsey, London, S.E.1. Telephone: Hop 145 and Hop 1733.

THE BRILLIANT SIGN COMPANY, Ltd., Row H, Stand 146.

SIGNS.

The Brilliant Sign Company's, Ltd., stand is an excellent advertisement, and demonstrates what can be done to attract attention by the use of illuminated signs. Facias, stall-boards, sky signs, signs of every kind, from the brass plate of the solicitor to the "day and night" aerial sign of the big brewery are carried out by the company.

Address: 38, Gray's Inn Road, London. Telephone: Holborn 2101.

HENRY WILDE, Row E, Stand 78.

CONCRETE MACHINERY.

This firm specialises in power plants for the manufacture of concrete products, such as blocks, bricks, slabs, roofing tiles, fence posts, etc. Most of their machines are so constructed that, should for any reason the power give out, the machines can be worked by hand. One of the special features of the stand is the power tamper working over the "Anchor" block machine. Each tamper foot strikes 70 blows per minute, and each blow comes down with a weight of 700 lbs., which is claimed to ensure a perfectly consolidated concrete of the greatest density and hardness. The firm sells this tamper to fit the "Anchor" or any other standard block, brick or slab machine, whether of the "face-down," "face up" or "side-face" type. A block made by the "Anchor" machine is shown standing in water up to half its depth. The power vibrator, as well as the "Eureka" hand vibrator, for concrete fence posts, are well worth inspecting.

Address: 8, Manor Park, Lewisham, London, S.E.13. Telephone: Lee Green 1640.

HOLLOW CONCRETE, Ltd., Row G, Stand 121.

HOLLOW CONCRETE BLOCKS.

On this stand are to be seen the "Sutcliffe" hollow concrete building blocks which have satisfactorily passed the tests specified by the Ministry of Health. The blocks are solid in appearance and full faced on all six sides, the thickness of the walls being adequately proportioned to the loads to be carried. The inside faces of the blocks can, if required, be finished in coke breeze (into which nails can be driven), tile, real or imitation marble, etc., and the outside and end faces with plain, moulded, ornamental, embossed, rough, rubbled, ashlared, or such like surfaces; further, the faces can be made suitable for a rough-cast finish. Standard stamped steel moulds of the simplest design only are required for the construction of the blocks, no machinery being necessary. Among the advantages claimed for "Sutcliffe"

THE BRILLIANT SIGN COMPANY'S WORKS, SHEPHERD'S BUSH, LONDON.

(From a Model by John B. Thorp.)

hollow concrete blocks are the following: "Strength with minimum amount of material, the fracturing load being over 50 tons per square foot or 800 lb. per square inch of block surface (from tests carried out by an independent recognised authority, at the request of the Local Government Board); economy of material and minimum weight to be handled; reduction in structural steelwork and foundations required for buildings and factories in consequence of the reduced weight to be supported, resulting also in considerable saving in cost; no weathering of faces of the blocks; perfect and stable construction and perfect bonding ensured due to blocks having full surfaces on all six faces; walls can be plastered without previous strapping; special reinforced hollow blocks can be made for special purposes at a very slight increase in cost; thickness of walls of blocks can be accurately proportioned to load to be carried." A further application of the block in industrial work is its use for the construction of tanks for holding liquids which attack metal and wood.

Address: 11, Queen Victoria Street, E.C.4. Telephone: Bank 82.

MINISTRY OF LABOUR TRAINING SCHEME.

A practical demonstration of the results of one of the training schemes under which the Ministry of Labour are teaching discharged men various trades can be seen at Stand 193, where work done by disabled men from one of the London training centres is exhibited. Joiners, plumbers, plasterers, and painters may be seen at work in their newly-acquired trades.

The stand itself has been decorated by the men.

The building trade scheme was prepared for the Ministry of Labour by a committee representative of employers' associations and trade unions affiliated to the building trade, and the executive councils of the unions continue to give the scheme their whole-hearted support, and encourage their local branches to do likewise.

Society of Architects' Conference

Mr. E. J. Sadgrove, F.R.I.B.A., president, occupied the chair on April 13 at the first of the series of conferences arranged by the Society of Architects and held at Olympia during the holding of the Building Trades Exhibition. Sir Tudor Walters, M.P., who was to have addressed the conference upon "Subsidies to Private Builders," was prevented through illness from attending.

The Building Subsidy.

Mr. E. C. C. Mosse, of the Housing Department, Ministry of Health, gave a general outline of the subsidy scheme, adding that apart from the subsidy there would be no Government advance, and the additional capital must be found by the builder himself. The Ministry understood, however, that building societies would advance as much as 75 per cent. of the actual cost of building to intending occupying owners, and would also make advances to speculative builders, but not to the same extent. They had also approached the banks, and understood that they would lend to builders who were entitled to the Government subsidy. He confessed that the scheme was not going well. Up to the present certificates had been issued for about 3,800 houses, and that was not much to boast about. They did want help in bringing the scheme to the notice of the builders, for they could not get houses built by sitting in Whitehall and issuing memoranda.

Mr. Thompson (Westcliff) thought that the fear of another "People's Budget" similar to Mr. Lloyd George's of 1910 was keeping a large number of people from investing in real estate.

Mr. Stedham (Torquay) said the fact that it was proposed that the Rent Restriction Act should go on for another three years had put the last nail in the coffin of private building.

Several speakers held that the subsidy was much too small, and should have been at least double to be effective.

The Chairman, moving a vote of thanks to Mr. Mosse, referred to the question of working-men owning their houses, and suggested that there was the fear of future legislation. He thought a large number of working-men would like to own their houses, and the Government would be only too pleased to support them, but there was always the trouble that they (the working-men) were afraid to do it.

The Increased Cost of Building.

Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., addressed the second of the series of conferences on April 15. The president, Mr. Sadgrove, again took the chair.

Sir Charles, speaking on "The National Housing Policy and the Causes of Increased Cost of Building," said that he felt very strongly that the cause of the increased cost of building was the reduction in the number of working hours, which had created an enormous shortage in the ranks of the building industry. The difference between the pre-war and the post-war hours meant the practical removal of 120,000 men from those ranks, and if the new demand for a forty-four-hour week from May 1 was granted, as he expected it would be, it meant a reduction of ten hours a week as compared with the pre-war period. There was no doubt also that the output per man had decreased to a very serious and alarming extent. Add together these two factors, and they got at the most difficult part of housebuilding to-day and the secret of the most important part of the increased cost of building. The removal of contract work, continued the speaker, had placed the builder, through no desire of his own, in the position of carrying no risk whatever. The position of the architect at the present time was a horrible one, and he, as an architect, was positively ashamed of some of the jobs he had carried out. There was no responsibility, no desire to improve organisation; the workers seemed to be in a state of lethargy, and the cost was climbing up all the time. Indeed, he did not think the cost of building would ever come down again.

The House Shortage.

Sir Charles computed the present shortage of houses to-day in England and Wales at 750,000, and that the annual demand was for not less than 100,000 new houses every year. Against that demand, he did not think the pre-war supply reached 80,000 a year, and in addition to this shortage they had to face the fact that of the 900,000 workmen engaged in the industry before the war they had a reduction, due directly and indirectly to the war, of not less than 200,000 men. In his opinion, the only solution of the problem was to get toget the three sections of the great industr which was rapidly going into bankrup —the workman, the builder, and the arc tect for the purpose of harmonious a economic working. There appeared to no possibility of putting houses on an e nomic basis until economic rents w charged.

Mr. A. Scott said that the economic r for the present-day cottage was somewh about £60 a year, and if that principle w accepted it meant that over 45,000,0 people would have to suffer in order to g economic rents for 4,000,000.

Major Freyberg said that the Re Restriction Bill simply prevented anybo building a house to let at a rental. simply said to the poor, homeless peop "You shall buy your house or else you sh not have one."

Correspondence

"As Others See Us"

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—There are times when it is w "to see ourselves as others see us."

I have recently made a specification f some small decorative repairs to house at ————, and as my client liv on the spot he took the specification to firm of local builders. Evidently they not approve of supervision, as the first r mark the predominant partner made wa "I don't 'old with going to these architec You might have saved expenses in his fe by coming to us direct."

The following criticism of my po efforts in specification-writing speak f themselves:

"Lavatory! What does he mean that? If he means a basin, why does he say so? I thought he meant a w.c." "We don't touch Duresco. I shall all for paint." "Kitchen—why strip wall Cost you £3 to strip walls. But, then mustn't go behind what architect says" "Twice distemper ceiling? Not usua Second coat pulls off first." "Soffit stairs? What does he mean?"

I am not necessarily "accepting th lowest or any tender."

F.R.I.B.A

Competition News

Bradford-on-Avon.

War memorial. Cost, excluding lette ing, not to exceed £400. Premium guineas. Particulars from Mr. J. Com ton, Westbury House, Bradford-on-Avo Closing date May 8.

Lockerbie.

War Memorial. Fund available £2,00 exclusive of roll of honour, architects' fe and outlays. Particulars from Mr. I M'Jerrow, Town Clerk. Closing da June 30.

Sheffield.

War Memorial Halls. Assessors, S Aston Webb, K.C.V.O., P.R.A., and M F. E. P. Edwards, F.R.I.B.A. Premiun £250, £150 and £100. Apply Mr. W. I Hart, Town Clerk. Designs by July 31.

Houghton-le-Spring Secondary School

The conditions of this competition ha been amended, and are now in accordan with the Regulations of the Royal Institu of British Architects and of the Society Architects.

The Exhibition as a Woman Views it

By JULIA CHATTERTON, M.B.E.

A WOMAN'S chief concern in these days is to regulate the domestic side of her house so as to promote iene and eliminate needless labour. e social conditions of life have comely changed during recent years, and he present time the dearth of servants oses many additional domestic duties 'the lady of the house.'' Labourng contrivances which do really save our and do not simply substitute one e of work for another are increasingly nanded, and these have been seen from e to time in the various exhibitions nged for the benefit of the public.

Kitchen and Scullery

he exhibition affords an excellent ortunity for reviewing the latest elopments of this kind, and investing the merits of the numerous liances which have been devised for purpose of raising the standard of ng in the home. The stand which upied the attention of all women pre-, from the ordinary everyday point of , was that arranged by the Staines chen Equipment Company, Ltd., of Victoria Street, S.W. Having ady proved in my own home the acy of many of their appliances, I can fy to the value of the aluminium king utensils, which, originally made a Government contract, are well de-ed, easy to clean, and practically estructible.

he draining rack in a scullery is gene-y regarded by housewives as a neces- nowadays, not only on account of the ng of labour in drying every single e or cup, but also as a means of re-ing laundry expenses. It is apparent, eflection, that crockery which does not d to be dried does not require the loyment of drying cloths, moreover constant replenishing of kitchen linen ereby obviated.

ate racks are now made to hold (1) es only, (2) plates and cups, and there nother model for (3) cups alone. These all of the type to be hung on wall es. Equally efficient is the draining rack, between the divisions of which plates stand vertically to drain. For no fitments are required, as it can be ed upon any shelf or table adjoining sink, and can be removed when hed with.

everting to plate racks which hang n the wall, and are fixed permanently, ve often wondered why a still further rovement is not made in their con-ction which would enable them to be n down and cleaned. The wall space nd the rack is a dust accumulator, ever clean the structure itself may be, speaking from the strictly hygienic dpoint, some method of cleaning the should be invented.

he Staines patent grease-proof sink nother clever invention, and is of teak d throughout, having draining boards hed, of the same material, thus pre-ing the leakage which, sooner or , is inevitable with the usual sink of eware and wooden draining board. t is impossible to make a water-tight tion between two such dissimilar erials as wood and stone, the old-ioned sink is an everlasting source of trouble in a scullery, and an even worse one in a flat kitchen, where the water from the sink drips down on to the floor boards, and finally percolates through to the ceiling of the flat below. With such a sink as that known as the "Staines Patent," these unsightly and unhealthy features are done away with.

Where space is a consideration in a kitchen much room can be saved, and a great deal of labour also, by the use of a "Quicksey" kitchen cabinet, which does away with the need for a cupboard of the ordinary type, a table, and shelves. The "Quicksey" cabinet contains space for all the little things required in the preparation of food, and has a shelf whereon tin canisters are placed, which need no lids as they are entirely enclosed after use. Pots and pans are methodically stored away in the lower part, and the front of the cupboard, when released, forms a flap for use as a table. The whole apparatus is practical, and is undoubtedly one of the best labour-savers yet brought forward for the woman who does her own cooking.

Floor Stains

In these times, when every kind of floor covering is expensive, many people who are faced with the problem of setting up a new home after the war are having stained floors in the rooms of their houses, and rugs in place of the old-fashioned and microbe-collecting carpet. The choice of a floor stain is not an easy one, more especially for the amateur who is to apply it at home. In such cases one of the best methods of securing a permanent result which will not tread off is to use a reliable wood preservative which can be oiled, polished, or varnished, as taste dictates, after the two coats of stain have been applied.

Of the wood preservatives to be found at the Exhibition I noticed some examples of Peterlineum in an artistic shade of nut brown, while at the "Solignum" stand were specimens of stains of many colours, one of the most uncommon being a soft blue, for use with a colour scheme *en suite*.

Preparations for the maintenance of polished surfaces are, of course, essential where floors are stained, and although many novelties are on the market at present which claim to be labour-saving, the one I can commend from my own personal experience is the "Ronuk" polish used with the "Ronuk" equipment for polishing. The "Dry Scrubber," which is attached to a long handle and therefore obviates kneeling, has clips to hold a duster over it, and this is really the best part of the contrivance, since it can be detached, washed, and dried very quickly.

Cooking, Heating, and Lighting

The respective merits of gas, electricity, and oil have all their especial recommendations, and are severally suited to certain conditions. For those who have gas installations a variety of new appliances are being shown at the Exhibition. The "Wifesjoie" patent one-ring gas cooker is a simply-designed stove especially adapted for ladies doing their own cooking. It can be used for gas, petrol gas, or paraffin, and performs all the functions of a modern cooking range in an economical manner. It is easily attached to existing gas fittings, and does not require any elaborate preparation for installation. This is to be seen in operation at the stand of the London Warming and Ventilating Company, Ltd., where cookery demonstrations attract the feminine eye daily.

Gas Cookers

Various types of gas cookers, ranges, and lights are on view in the suite of rooms fitted up by the South Metropolitan Gas Company. A soft reading light is produced by the "Metro" burner, and the latest forms of gas fires are fitted into the rooms. An especially neat and well-designed fire, suitable for a small room, is number 40, which is plain in design and absolutely free from those embellishments, which so offend the artistic eye. The same company have also on exhibit a gas-operated kitchener, where a gas cooker and hot-water cylinder of the most up-to-date type are found in juxtaposition, for which it is claimed that the system employed ensures an ample supply of hot water at all times.

The "Combyn" patent coal and gas stove is shown by Messrs. McDowall, Steven and Co., of 4, Upper Thames Street, E.C. This enables the occupant of a house or flat to have either a coal or gas fire at will. The model is formed on the principle of a double grate, to which a gas fire is attached in two compartments. These are swung from either side of a fire grate of the usual design. The two wings meet in the centre of the grate, and when the gas fire is lighted, the join is invisible. When this is not in use each half can be swung back into a recess in the tile cheeks of the fireplace, which close so exactly that there is nothing whatever to be seen of the gas stove when the ordinary coal fire is alight. Another exhibit on this stand is the model of an old English brick fireplace, which has a mellow effect calculated to bring much pleasure to the possessor of this very desirable feature.

Electricity and Oil

Electric cookery has many advocates, and for cleanliness and simplicity has a great deal to commend it. The Carron electric cooking appliances range from small stoves for flats to the large cooking stoves installed nowadays in so many factories and mills. A point worthy of consideration in these electric cooking stoves is undoubtedly the "hot table" on which the saucepans stand while the food is being cooked. The advantage of a perfectly plain surface is that there are no bars through which the fat can drop, and it is also a very simple matter to clean the top of the stove.

Cooking by oil, although necessitating a certain amount of fuel storage—a matter of some importance in flats where accommodation is very limited—nevertheless possesses many good qualities. Not the least important is the elimination of bills running on, for the consumer can check the outlay as the work proceeds. There are not a few good makes of oil stoves to be seen at the exhibition, one of the best-known and newest being the "New Perfection Stove," which is silent, odourless,

simple to operate and clean, of which I have had a very wide experience.

Modern lighting effects are of primary importance in the home, the choice of suitable shades, now made in every colour and of several widely different materials, being one of the chief considerations. In dining-rooms and libraries, where illumination is required for reading that shall produce a good light without glare, the new glass inverted shades are generally found satisfactory, and can, moreover, be taken down and cleaned more easily and economically than those made of silk or other friable materials. Numerous examples of this system of shading electric lights are to be seen, and among the prettiest effects are those obtained by the scientific illuminating glassware shown by Messrs. Underwood, Ltd., of Manchester, on whose stand also may be seen reading lamps of softly tinted glass, somewhat resembling those one sees in the glass factories of Venice.

Decoration and Furniture

One of the most delightful of the exhibits is that shown by Messrs. Robert Johnson and Company, of Leicester, whose skill in producing artistic furniture and draperies, without having to rely upon Futurist methods, is to be praised. The three rooms display eminently sane colour schemes, pleasing to the eye, and refined to a degree. The dining-room has been panelled in mahogany, against which the especially beautiful shade of violet leather-covered chairs, and silk of a similar hue, show up remarkably well. Grey and mauve window hangings add to the charm of this restful room, and the only vivid touch of contrast is supplied by a single bowl of massed rhododendrons in riotous colours of cerise, purple, yellow, and white, which occupies the centre of the dining-table. The bedrooms are in blue and orange tones respectively, and are simply and suitably furnished with bedroom suites of those colours, relief being afforded by the contrasting chintz hangings. An innovation in bedroom lighting is the employment of the standard lamp, fitted electrically, which can be moved to any position to suit the convenience of the occupant.

There is nothing more certain to mar the whole effect of an otherwise perfectly thought out scheme of decoration than the mal-treatment of windows in respect to curtains and hangings.

A really neat window hanging is a joy to look upon, just as one imperfectly fitted can prove a constant source of irritation. I was greatly interested in the extremely clever curtain rods which are being shown by the "J. M." Curtain Rod Company, of Leicester. The makers have produced a rod with runners, instead of rings, which in turn take a simple curtain loop attachment, known as "Oloopo" tape, the whole fitting being exceedingly practical and tidy.

A new departure in window blinds is the "Domart" shadow blind, made by Messrs. Domart, of 79, Great Queen Street, Kingsway, W.C.2. These are constructed of various artistically coloured wood slats, which, the manufacturers claim, are unfadable, can be fixed inside a room, or outside as a sun-blind, and can be easily washed.

The upkeep of staircases in private houses is always somewhat of a trial to those who are responsible for the work. Any invention, therefore, which lessens the labour of cleaning stair treads may be regarded with especial interest. In this connection the "Hayter" stair rod has a distinct claim to consideration, having no unsightly stair eyes with its fitting. This consists only of two cam-levers, screwed into the angle of the stairway, over which the rod is passed. The rod is locked by pressing the levers down on to the rod, and it cannot then be displaced by foot-treads. "Hayter" rods are made either of metal or wood, the latter proving more popular since they do not require polishing.

Many beautiful wallpapers are on view, and in one or two the colouring is exceedingly beautiful. Oriental devices have attracted a great deal of attention from all branches of house furnishers, and two of the best attempts to produce an Oriental effect without incongruity have been much admired on the stall occupied by Messrs. Heffer Scott and Co., Ltd., of Berners Street, W., who have adapted to screen and panel work a wallpaper known as "The Water Carrier"—a study on a dull bronze ground with a lacquer effect. Equally good, from the points of view of design and colour is "The Flight," depicting birds in sepia tints on a chrome yellow background, the whole being an harmonious treatment of the subject, which does not obtrude unduly.

For the woman who is the fortunate possessor of a large garden, there are many accessories on view at the stand which has been so well arranged by Messrs. Pulham and Son, garden craftsmen, of 71, I man Street, W. The joy of living w one feels, be greatly enhanced by the proximity of one of the delightful gardens shown in the records of accomplished by this firm. Sundials are on view on the same stand, whic as attractive to-day to the home-love they were many years ago.

While speaking of gardens and possibilities, I should like to refer to tents, 14 ft. 6 in. in diameter, show Mr. George Blay, of New Malden, Su and are part of the surplus Govern stock.

Shepton Mallet War Memorial

The war memorial illustrated below been adopted by a committee of th habitants of Shepton Mallet. It is t erected in Portland stone with b panels containing the names of the fa As will be seen, the design, which is work of Mr. C. F. W. De F.R.I.B.A., R.W.A., of Bristol, is dig and simple. Upon the advice of Dening, the committee have accept site on rising ground at the junctio roads leading to the Great Western way station and Castle Carey.

SHEPTON MALLET WAR MEMORIAL.
C. F. W. DENING, F.R.I.B.A., R.W.A., ARCHITECT.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

ABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
CAVATOR AND CONCRETOR	
avator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. 3d. per yd. cube.
ourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
vy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
iberman, 1s. 9d. per our.	In underpinning, add 120 per cent.
ffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
tchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
ken brick or stone, in., 7s. per yd.	Headings, including timbering, add 400 per cent.
mes ballast 19s. per yd	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Gravel, 20s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
sand, 22s. per yd.	Planking, 5½d. per ft. sup.
shed sand, 23s. 6d. per d.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
eened ballast or gravel, dd 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 3d. per yd. sup.
ker, breeze, etc., prices cording to locality.	Do. 6 in. thick, 4s. per yd. sup.
tland cement, 79s. per on.	Puddling, 30s. per yd. cube.
in small lots, ex ondon stock, 100s. per on.	Cement concrete, 4.2.1, 53s. 6d. per yd. cube.
s lime, 70s. per ton.	Do. 6.2.1, 50s. 6d. per yd. cube.
ks charged extra at s. 6d. each and credited hen returned at 2s.	Do. in upper floors, add 12½ per cent.
nsport hire per day:	Do. in ferro concrete work, add 20 per cent.
art and horse, 28s.	Do. in underpinning, add 50 per cent.
ton motor lorry, £6 15s	Lias lime concrete, 47s. per yd. cube.
team lorry, 5-ton, £7 5s.	Breeze concrete, 33s. per yd. cube.
railer, 32s. 6d.	Do. in lintols, etc., 5s. 3d. per ft. cube.
team roller, £4 10s.	
Vater cart, 30s.	
AINER.	
ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
iberman, 1s. 9d. per our.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in. 15s., 9-in. 26s. per ft.
cklayer, 1s. 11½d. per our.	Note.—These prices include digging and filling for normal depths, and are average prices.
mber, 2s. per hour.	
tchman, 6s. 6d. per shift.	
neware pipes, tested uality, 4-in. 3s., 6-in. s. 9d., 9-in. 7s. 11d. per d.	
t iron pipes, coated, ft. lengths, 4-in. 4s., in. 5s. 9d., 9-in. 8s. 6d. er yd.	
tland cement and sand, ee Excavator above.	
d for caulking, 60s. er cwt.	
sket, 1s. 9d. per lb.	
ICKLAYER.	
cklayers, 1s. 11½d. per our.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
ffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
ndon stocks, 86s. per M. 1.	Do. in blues, add 320 per cent. per rod.
ttons, 75s. per M.	Do. circular on plan, add 12½ per cent. per rod.
ffordshire blue, 220s. er M.	Facings, fair, 3d. per ft. sup. extra.
ebricks, 2½ in., 223s. per M.	Do. picked Flettons, 4¼d. per ft. sup. extra.
ized, salt, white, and vory stretchers, £25 er M.	Do. picked stocks, 6d. per ft. sup. extra.
headers, £24 10s. er M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
ours, extra, 130s. per M.	Struck pointing, 4d. per ft. sup. extra.
onds, less, £1 per M.	Tuck pointing, 10½d. per ft. sup. extra.
ment and sand, see Ex- avator above.	Weather pointing, 4d. per ft. sup. extra.
ne, grey stone, 65s. per on.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
xed lime mortar 26s. er yd.	Do. 1½-in., 5s. 10d. per yd. sup.
mp course, in rolls of ½ in. 4s., 9 in. 7s. 3d., 4 in. 10s. 9d., 18 in. 4s. per roll.	Do. 2-in., 7s. 6d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte, damp course, ½-in., 1s. 4d. per ft. sup.
	Do. vertical, 1s. 8d. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 11s. 6d. per yd.
	Do. skirting, 6-in., 1s. 6d. per yd.
ASON (INCLUDING SLATE).	
ason, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 6d. per ft. cube
fixer, 2s. 0½d. per hour	Do. for every 10 ft. above 30 ft., add 10 per cent.
bourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
affolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
rtland stone:	Sunk face, 3s. 1d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. per ft. sup.
th stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. per ft. sup.
nsfield red, 7s. 6d.	Do. do. circular, 2s. 8d. per ft. sup.
sual trade extras for arge blocks.)	Circular-circular work, 10s. 3d. per ft. sup.
rk paving, av. 2½ in. s. 6d. per ft. sup.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
rk Templates Sawn, er ft. cube, 10s. 3d.	Do. circular, 10½d. per ft. run
	Half sawing, 10d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
	Rubbed round nosing to do. 8d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 82s., Countess 89s., Duchess 98s. per square.
Tiler, 1s. 11½d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 110s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 6s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 94s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 87s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 133s. per M.	
Machine-made tiles, 124s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 15s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel:	Centering for concrete, etc., including horsing and striking, 95s. per sq.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Slate battening, 29s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	1-in. deal gutter board on firring, 108s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1¼-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Do. F.E., 3rd and U/S. £58.	2-in. do. do. 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Norwegian or Swedish:	Do. do. do. 1½in. 3s. 3d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	If in oak multiply 6 times.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1½-in. 16s. 6d. per yd. sup., average.
Teak, 4s. 6d. per ft. sup. of 1 in.	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 83s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 5d. per ft.
Lead, milled sheet, 60s. 6d. per cwt.	Do. ¾-in., 3s. 1d. per ft.
Do. Drawn pipes, 61s. per cwt.	Do. 1-in., 3s. 7d. per ft.
Do. soil pipe, 66s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. scrap, 30s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 3-in., 11s. 9d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 4-in., 16s. 3d. per ft.
Do. fine, 2s. 6d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Red and white lead, 10d. per lb.	Do. 3-in., 2s. 8d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 5d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Do. O.G., 4-in., 2s. 3d. per ft.
Gutter, 4-in. H.R. 4s., 4-in. O.G. 4s. 3d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each.
	Baths only, with all joints, 37s. 6d. each.
	Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Cathedral, ordinary, 6½d. per ft.	
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ½ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 67s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 9d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Genuine white lead, 110s. per cwt.	Do. subsequent coats, 1s. 3d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Do. enamel coat, 2s. 5d. per yd. sup
Do. boiled, 12s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 10d. per yd. sup.
Turpentine, 18s. 6d. per gal.	Figured do. do. 8s. per yd. sup.
Liquid driers, 22s. per gall	French polishing, 1s. 10d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
Petrifying liquid, 4s. 3d. per gall.	Varnishing paper, 1 coat, 15s. 6d. per piece.
Double size, 7s. per firkin.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Pumice stone, 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 6d. per yd. sup.
Hard stopping 9d. per lb.	Do. each subsequent coat, 1s. 4d. per yd. sup.
Varnish, hard oak, 19s. per gall.	
Do. Outside do., 19s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 22s. 6d. per gall.	
Do. Flat, 22s. 6d. per gall.	
Do. Paper, 22s. 6d. per gall.	
French polish, 28s. per gall	
Turps substitute, 7s. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £55 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £39 per ton
Brector, 1s. 10d. per hour.	Do. in compounds, £44 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £43 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cwt
Sheet steel:	Fixing only corrugated sheeting, including washers and driving screws, 1s. 5d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last. flat. 5s. 5d. per yd. sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 5s. 6d. each.
Do. in metal frames, 4s 3d. per ft. sup.	Building in metal casement frames, 6d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods: R.W. gutter, 4 in., per yd. 1s. 11d.	Gutter-fixed, 1s. 6d. per ft.
R.W.P., 3 in., per yd. 2s. 7d.	R.W.P. fixed, 1s. 10d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
These lists are strictly copyright.

R.A. Ateliers

A scheme has been prepared under the general supervision and control of the Royal Academy for the co-ordination of advanced architectural training in a group of ateliers which will work on the Beaux Arts system, and will be open to students day and night. The main purpose of the scheme is to promote the study of design on the lines which the Beaux Arts method has proved to be so valuable, and it is intended to meet the requirements of students who are working in offices during the daytime and who will seldom have more than the evening time to spare.

Subjects in design will be set every two months, and the drawings submitted in competition between the ateliers will be regularly exhibited to the public. It is hoped that an annual exhibition of these drawings and of the winning designs in the competitions may be arranged at the Royal Academy. As in the Paris ateliers, subjects will be divided into first and second classes, and students will be required to win a minimum number of "mentions" in design before passing from the first to the second class. Students who have taken a recognised school course will be admitted without entrance examination.

The whole group of ateliers is to be controlled by an Atelier Council appointed by the Council of the Royal Academy, and it is expected that diplomas will be granted by the Atelier Council to fully qualified students in the first class who have passed the necessary tests of distinction. The group will initially consist of "The First Atelier," the Architectural Association Atelier, and the London University Atelier. Intending students should write for particulars to the Secretary, Architectural Ateliers Committee, 34, Bedford Square, W.C.

R.I.B.A. Examinations

The scale of examination fees of the R.I.B.A. is now as follows:

	£	s.	d.
Preliminary	3	3	0
Intermediate	4	4	0
Final	5	5	0
Special Final	7	7	0
Special War Exemption (open only to registered Students R.I.B.A.)	5	5	0
Special War Examination	7	7	0
Special Overseas Examination	7	7	0
Licentiates	7	7	0
Statutory	3	3	0
Building Surveyors	3	3	0

Scottish Housing Grants

The Scottish Board of Health have issued the Housing (Financial Assistance to Builders) Scheme (Scotland), 1920 made by them, with the approval of the Treasury, under Section I. of the Housing (Additional Powers) Act, 1919. The plans of houses intended to participate in the subsidy do not require to be submitted to the Board for approval, but the site and lay-out plans require to be approved by the local authority, while the plans of the houses must be approved by the local authority (or, in burghs where there is a dean of guild court, by that court). The only cases which require to come before the Board except on appeal are those in which it is proposed to build in materials other than stone, brick, or concrete. In such cases the plans, etc., will be submitted by the person proposing to build to the local authority (or dean of guild court), who before approving the erection of house of such materials, will first submit particulars of the method of construction to the Board, who will intimate whether the construction is acceptable and the amount of subsidy to which the builder may be entitled under the scheme.

Venesta Ply-Panels.

Our Stand at the Building Exhibition is No. 86a, Row E

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Don't confuse Venesta Ply-Panels with mere plywood—they are much more than that. They are super quality panels comprised only of selected and flawless "plys," waterproof, unshrinkable, and practically indestructible.

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Specimen of Venesta Tudor Period Panelling.

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The Week's News

(Concluded from page 512)

Hampstead Institute Extension.

Hampstead Garden Suburb Institute is to be enlarged at a cost of £70,000.

Maternity Hospital for Paris.

At Chalons, near Paris, a model maternity hospital is to be erected at a cost of 1,000,000 francs.

Willesden.

Willesden U.D.C. are borrowing £50,000 for housing purposes from Queen Anne's Bounty Fund.

Portsmouth.

The Ministry of Health have approved the Portsmouth Council's scheme for 243 houses at £200,000

Proposed Peak Cottage Hospital.

A movement is on foot for the provision of a cottage hospital for the Chapel-en-le-Frith and Chinley districts.

Bromley.

Owing to shortage of materials, half the men engaged in the construction of the Garden City at Bromley, Kent, have had to cease work.

House Conversion at Islington.

For the conversion of two houses at Highbury into flats tenders received by Islington Council varied from £2,833 to £6,321.

Proposed Church at Rowlands Gill.

A scheme has been inaugurated for the erection of a new church at Rowlands Gill at an estimated cost of between £6,000 and £7,000.

Windsor War Memorial.

The Earl of Athlone has forwarded a cheque for £2,042 15s. to King Edward VII. Hospital, Windsor, as part of the fund raised as a memorial to Windsor men who fell in the war.

Dumbarton.

At a meeting of Dumbarton Town Council the Housing Committee reported that the Board of Health had confirmed the compulsory order for acquisition of over thirty-seven acres of land.

Perth War Memorial.

It is proposed to restore St John's Church as a war memorial for the city. The plans of the proposed restoration have been prepared by Sir Robert Lorimer, A.R.S.A.

Church as Memorial.

It is proposed to erect a memorial church in Aldershot Camp to the memory of all Catholic officers and men of the Army and Royal Air Force who have fallen in the war.

Three Mile Bridge.

Plans have been approved by the Castle Ward R.D.C. for the erection of houses on a new building estate called the Bridge Park Estate, which is situated at the west side of the North Road near the Three Mile Bridge, Gosforth. The estate comprises eight acres.

Cardiff.

Messrs. Ivor P. Jones and Percy E. Thomas, AA.R.I.B.A., of Cardiff, have been appointed architects for the new cottage homes to be known as the "Sir Edward Nicholl" Homes. An excellent site has been acquired by the committee on Penylan Hill, overlooking the Bristol Channel, and the first building, to accommodate about sixty, is to be proceeded with immediately.

New Training College for Sunderland.

The Governors of the Sunderland Day Training College have decided to convert Langham Towers, a large residence which the Corporation purchased recently in the Christ Church district at a cost of £8,000, into a training college.

Hospital Huts as Houses.

Egham (Surrey) U.D.C. has bought Princess Christian's Red Cross Hospital, Englefield Green, Egham, for about £5,000. It is expected, after alterations of the buildings costing another £5,000, that there will be accommodation for between thirty and forty families.

Southend.

The Alliance Housing Association, London, of which Lord Haldon is president, has arranged for the erection of 1,000 houses and bungalows for £600 each in Southend, Westcliff, and Leigh, wherever suitable plots can be obtained. As many as possible will be made ready for occupation by September. They will be allotted by ballot.

War Memorial for Thame, Oxfordshire.

The committee appointed to consider what form of memorial should be erected in memory of the men of the town who fell in the war have decided in favour of a Celtic cross, which it is proposed to erect in the open space in front of the Town Hall. Mr. James T. Robinson, of Thame, architect, has been appointed to carry out the scheme.

University Appointment.

Mr. Robert Pierce, architect, Carnarvon, and architect to the housing scheme of the Gwyrfai Rural District Council, has been appointed lecturer at the North Wales University College, Bangor, on "The Development of Farm Homesteads, Building Construction, and Sanitation," in succession to the late Mr. Evan Evans, county surveyor of Carnarvonshire.

Dames' Houses at Harrow.

It has been decided to pull down Dame Armstrong House, High Street, Harrow, in connection with the school memorial, and the demolition will remove an interesting link with education in the past. There were originally six, the most famous being that which stood on the site of the vicarage (in which Mrs. Annie Besant lived with her mother).

Shoreditch War Memorial.

The repair of Shoreditch Parish Church, whose registers contain the names of many of Shakespeare's contemporaries, including the Burbages, is to be the form of the war memorial for the district. Some £5,000 is needed. Cracks in the spire have been discovered, as well as defects in the roofing, and Mr. Mervyn Macartney, F.R.I.B.A., consulting architect for St. Paul's Cathedral, is tendering his advice.

Rebuilding French Towns.

Representatives of the French building trades, coming from all quarters of their country, have arrived in London, to visit the Building Trades Exhibition, Olympia, and to further a commercial understanding between the trades in France and this country. Visits have been exchanged the past quarter of a century, but French manufacturers regard this as most important they have ever made, view of the problems of rebuilding and construction which they are facing.

The Improvement of London.

The London Society, encouraged by success which met its production, a three years' work, of a map showing w Outer London might become unde combined effort at development and to planning, has now decided to bring ou map suggesting improvements wh could be carried out in the already bu up portion of London, and the work now in progress.

Sweden.

The Government have submitted to Riksdag a proposal regarding the hous question recommending that premises a total of 40,000 rooms should be built means of a public grant during a pe of five years, during which time the S itself would build houses having a tota 5,000 rooms for civil servants. It is mated that 270,000,000 kroner will needed for this purpose. The State w establish a building loan fund 100,000,000 kroner, and would grant a s sidy in the form of exemption from pay interest during ten years on the lo which would represent half the build expenses. The rationing of apartmen not recommended in the proposal, as is regarded as an extreme measur Reuter Trade Service.

Concrete Aggregates.

The Concrete Institute has collected tabular form, a variety of useful infor tion on the properties of aggregates av able in different parts of the country. collection of this information has b made possible by the co-operation o number of county and borough engine who have furnished particulars upon fo provided by the Institute. By this me a large amount of valuable informa has been made accessible to all who are terested in concrete work, and who wis ascertain what aggregates are availabl any particular district. The investigat is not yet completed, but the tabulated formation at present collected is open inspection, free of charge, on applica to the secretary of the Concrete Instit at Denison House, 296, Vauxhall Bri Road, Westminster, S.W., from 11 to and 2.30 to 4.30 (Saturdays 10.30 to 12.

Coming Events

THURSDAY, APRIL 22.

Concrete Institute.—"The Consiste of Portland Cement Mortar and C crete." By H. Lloyd. 7.30 p.m.

FRIDAY, APRIL 23.

Institution of Mechanical Engine Storey's Gate, St. James's Park, Lond S.W.1.—General Meeting, 6 p.m.

Society of Architects.—Public meet in the Small Conference Hall at Olymp Representatives of the British Commer Gas Association will open a discussion "Gas Heating in Relation to Economy Building."

nesday, April 28, 1920 Volume LI. No. 1321

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

M. VICTOR LALOUX, MEMBRE DE L'INSTITUT.

M. Laloux, born in 1850 at Tours, entered the office of M. Rohard of that city, and afterwards entered the Atelier André for the Ecole des Beaux-Arts. In 1878 he won the First Grand Prix de Rome, and quite recently has been elected for the fourth time President of the Société des Artistes Français. For an account of his brilliant career, and of his profound influence on Architectural training, see the series of articles of which the first appears on page 555.

27-29 Tothill Street, Westminster, S.W.1.

Notes and Comments

Where Honour is Due

KNIGHTHOODS for war services have been very freely bestowed, sometimes with more generosity than wisdom. But while some of the recipients raise the poet's question regarding the fly in amber, there are certain oversights at which we are still more completely puzzled. Architects everywhere are asking why Mr. Ernest Newton was not knighted years ago. Surely the honour fell due to him when he carried on so splendidly as war-time President of the Royal Institute of British Architects. Surely the State cannot have forgotten what the Institute did and suffered during the war—cannot have been oblivious to its enthusiastic and highly successful war-time activities in recruiting; in sending comforts to men in the trenches; in looking after the wives, children, and other dependents of its fighting members; in its hospital ambulance work; in its hospitality to Belgian and other refugees. In these and in various other ways the Institute rendered the country invaluable services at a most critical period. And Mr. Ernest Newton was the war-time President. Upon him devolved more strenuous work than any other President of the Institute had ever encountered—work for the country as well as for the Institute, which begged him to continue in the chair for another year, and would have elected him for a third term but for his health giving way under the tremendous strain to which it had been subjected. Then Mr. Newton was appointed honorary architectural adviser to the Government, and in this capacity he rendered sterling service to the State at a time when it was sorely in need of expert advice on building. What is his reward? Mr. Ernest Newton, A.R.A., is among the half-dozen front-rank men of his profession in England to-day. In some respects he stands indisputably first; and for sheer charm his domestic work is unsurpassable. His eminence as an architect has gained him Associateship of the Royal Academy. His brilliant and strenuous tenure of the Institute presidency during those two trying years should have gained him a knighthood, more especially since so much arduous and patriotic work was entailed. His voluntary service to the State as architectural adviser, in which capacity he exhibited uncommon skill, tact, and urbanity, is most inadequately rewarded with a C.B.E. He had a threefold claim to the higher rank, and, frankly, we regard his relegation to the lower not merely as a slight and an injustice to the man himself, but as an affront to the profession which he adorns. Men whose deserts, compared with his, are stark naught, have been honoured with knighthood—perhaps as a reward for importunity or for some more subtle form of pushfulness. He, being the last man in the world to make himself conspicuous where honours are bestowed, has been fobbed off with a C.B.E. We believe there is not the slightest exaggeration in saying that the entire profession is disgusted with this shabby treatment of one of its most highly esteemed and most eminent leaders—a man who is not merely admired for his high achievements in the art of architecture, or for his services to the country and to its premier architectural organisation, but one whom, for his fine personal character, his fellow-architects hold in veneration and affection—"a very perfit gentil knight," whether or not the official title be grudged him. With Mr. Newton (need it be said?) we have exchanged not one single word on so delicate a matter, and, knowing well his extreme modesty, we feel sure that he would strongly disapprove of our protest; which, however, is made not on purely personal grounds, but because the entire Profession resents the slight.

Sir Robert Lorimer, A.R.A.

Two painters a sculptor, and an architect were l week elected Associates of the Royal Academy. Walter W. Russell, the painter, is a teacher in Slade School; the other painter who gains the A.R. is Mr. Oliver Hall. Mr. Henry Poole, the sculptor, a pupil of G. F. Watts, and has done much good w on public buildings in London, at Bristol, Cardiff, a elsewhere. Sir Robert Lorimer's domestic worl often in the stately "Scottish Baronial" style—won h a high reputation which he crowned with the beaut Chapel of the Knights of the Thistle in St. Gile Cathedral, Edinburgh. The interior of this chapel i perfect gem of architecture, but even more remarka is the skilful way in which the chapel was added to cathedral without looking like a crude excrescence. stranger would regard it as a part of the origi edifice. It is a graceful act for the Academy to exte the Associateship to a Scotsman; but though Robert practises in Edinburgh, he is no stranger London, where for eighteen months he worked in offices of G. F. Bodley, R.A. Sir Robert's skill ecclesiastical work extends to the details; f besides the consummately designed and finely wrou fittings in the Thistle Chapel, he has designed scree organ cases, pulpits, choir stalls, and so forth, in large number of churches. He was knighted in 19 and is an Associate of the Royal Scottish Acade and a Fellow of the Institute.

The President's Protest

Government control of building has been morta wounded. It cannot long survive the vigorous a eloquent protest against it made in "The Times" April 19 by Mr. John W. Simpson, the President of Institute. He opens with a note of alarm. He fores widespread unemployment among skilled artisans in building trade—not because work is scarce, for it waiting in abundance, but because Government offic persist in "their interference with the normal working this most complex industry." It is for this sa reason, the President argues, that housing is at a sta still. Now, how it is that State control, maintained, the official mind contends, with the object of expedit housing, should have the exactly contrary effect paralysing it, is not easy for the layman to understan but the President makes the matter perfectly clear by employment of a striking figure of speech. "T Ministry of Health," he says, "panic-stricken at failure to produce houses in its own way, armed its with yet more drastic powers, hoping, by the prohibiti of every other kind of building, to force all the industr rivulets into a single narrow channel of housing. T policy is as hopeless in practice as it is unsound theory; to obtain a stronger current the tributary sour must be fed to overflowing until a general flood of bui ing quickens, in its turn, the sluggish stream housing." Then, changing the metaphor effectively somewhat violently, he adds: "The building industry an immense and a delicately adjusted machine, a increased production cannot be obtained from one p of it by clogging the wheels in another part: but it easy to cause hideous disorganisation, and disturbar in the building trade, which is connected with, a reacts upon, every part of our social and econor system, is especially dangerous." That is surely t clearest possible exposition of the case against State c trol. Equally true and forcible is the contention t "There is no place for the highly skilled class operatives in cottage building, which could, in practi be executed almost wholly by labourers. A little joine a still smaller amount of plumbing, is all the skilled w

: can profitably be absorbed. The steelworks and tors, stonemasons, hardwood joiners, cabinet-makers, p-fitters, marble masons, bronze and other art metal-kers, fireproof floor constructors, carvers, fine plaster lellers and casters, together with scaffolders, crane-ers, and the mass of an infinite ramification of depen-t manufacturers, will presently be walking the streets hese "so-called 'luxury buildings' are to be pro-ted." This unanswerable argument against Govern-it control should secure its immediate abolition. cialism must not be allowed—cannot, indeed, afford o clog the wheels of progress.

Wales and Architecture

'he Cymry, like the Celts, are keenly interested in ence and the arts, and of late years Wales has been y active in the cause of technical education. A rent detail of this development is the appointment Mr. W. S. Purchon, M.A., A.R.I.B.A., as head of Department of Civic Design at the Technical lege, Cardiff. Mr. Purchon will, we are sure, firm at Cardiff the high reputation he has won at effield, where for twelve years he was head of the iversity School of Architecture. It is his ambition make this young Welsh school a sound, vigorous, l useful one; and as in this effort he has the hearty port of the South Wales and Monmouthshire Insti-e of Architects, the fullest realisation of his aim is eady assured. In wishing him all possible cess in his new sphere of action, we venture to ress the hope that there may shortly be established Wales a well-endowed University Chair, and that . Purchon will be invited to occupy it.

Salisbury's Seventh Centenary

On April 28, 1220, Salisbury Cathedral was begun, d the present year may therefore be regarded as its enth centenary, although that honour will no doubt shared by the year 1258, which saw the completion of building. As Mr. H. Heathcote Statham, writing in 'he Observer," remarks, Salisbury is the only one ong our English cathedrals that was built in one nerent style. "All the others display marked ferences in style in portions of them built at different es. . . . In Salisbury alone we have the example a great cathedral carried out, with the exception of ne negligible details, as a complete and homo-neous architectural conception; for though the spire d the upper part of the tower date about half a cen-y later than the bulk of the building, their general sign is quite in harmony with it, and it only gives the pression of being treated rather more richly in detail, the central and most prominent feature might suit-ly be." Wren found that the spire was slightly out of perpendicular, but it seems not to have got any worse ce his examination. It has been strengthened at the gles, and iron cross-ties have been inserted; and out twenty years ago (Mr. Statham says), the late Sir thur Blomfield effected further repairs. The plan of cathedral is typically English: "the whole line of the in arcades, from west to east, about 460 ft. is a rigid rallelism."

he Public Interest in Architecture

We are delighted to find that some of our lay con-nporaries are giving increased attention to architec-ral subjects. In particular we would offer our con-atulations to the "Sphere," "The Observer," the Daily Graphic," and the "Manchester Guardian," d two leading Liverpool newspapers. Liverpool wspapers, indeed, would have no shred of excuse for glecting the subject, seeing how vigorous a centre of chitectural interest its University has become. The Manchester Guardian" has a London correspondent o is keenly interested in art; "The Observer" pays more attention than any other Sunday paper to the "things that count" among educated readers; the "Daily Graphic," recognising the unity of the arts, gives architecture very frequent attention, and has lately printed a series of personal paragraphs (not always in the best of taste) about architects; while the "Sphere" has taken up the subject with considerable energy, showing, in a series of illustrations of sky-scrapers and other buildings, how interesting a subject architecture can be made when it is skilfully handled. We welcome very heartily the assistance that our lay contemporaries are thus giving in the important work of arousing and sustaining the interest of the general public in what should be the most popular, and is certainly the most practical and therefore the most impor-tant, of all the arts. For we have a firm belief in architecture as a means of education and culture; and, reciprocally, the more widely it exerts this influence, the better it will become. Public apathy is a dead weight that depresses effort and destroys aspiration, and those of our contemporaries who are helping to remove this incubus from architecture are rendering true and laudable service to the community at large as well as less directly to the architectural profession.

The Casino at Marino

Concerning the Casino at Marino, Clontarf, of which some interesting illustrations are given in the May issue of "The Architectural Review," which is now on the point of publication, a recent visitor brings us a rather unsatisfactory account. He states that it is sadly in need of repair, and that unless it receives prompt attention it will soon be in ruins. Some years ago, our eye-witness adds, the late Charles Follen McKim fell in love with the beautiful little building, and offered £200 towards the cost of setting it in order, but nothing was done. The timely attention given in the "Review" to this gem of architecture may possibly be the means of saving a building that all lovers of architecture think well worth preservation.

The Higher Patriotism

Dublin, which, on the whole, follows very steadily an excellent tradition in architecture, offers a fine field for really high-class hardware—as, for instance, artis-tically designed door furniture, lighting fittings, and so forth, as well as for general equipment, such as cooking stoves and the like. There is, of course, in some quarters in Ireland, an almost fanatical opposi-tion to "foreign" importations; but the boycott can hardly extend to articles that Ireland does not produce. Besides, Irish architects are usually broad-minded men, who, while patriotically anxious to encourage native industries, may be depended upon to be loyal also to the great art of which they are such admirable exponents —to practise, in effect, the higher patriotism that is superior to ephemeral shibboleths.

Specification, 1920: Important Notice

The publishers of "Specification" have to announce that the current edition (1920) has been completely sold out. The demand has been quite unprecedented, and, although the edition was considerably increased in the number printed, to make ample provision for the expected sales, the whole issue has been exhausted within eight weeks of its publication. To those who find themselves unable to obtain the book, the publishers offer their sincere apologies for the disappointment caused them. The publishers, however, are prepared to repurchase copies from all those willing to dispose of them, by which means it is hoped that a supply will become available for distribution to those architects and others who are in particular need of them. The stock of back numbers, it may be mentioned, is very low, and only consists of a few copies of the issue for 1916 and for 1913, which can be supplied at the price of 5s. net.

The Week's News

£1,000,000 Housing Scheme

Neath Urban District Council propose spending from one million to one and a half million pounds on their housing scheme.

Ayr Housing Schemes

The Ayr Town Council have decided to divide the architectural work in connection with housing schemes among the town architects, and the Scottish Board of Health have restricted the number to three. One architect has been appointed, and the President of the Scottish Institute of Architects is being asked to nominate the other two.

The Old Town Hall, Penzance.

The old Town Hall shown at page 509 of last week's issue was that of Penzance. It was wrongly assigned to Bristol. To the numerous correspondents who have kindly pointed out the error (which had been already discovered by the Editors) we hereby tender our most sincere thanks. The mistake of attributing the hall to Bristol arose through a momentary confusion of names by a member of our staff while working at high pressure on the production of an enlarged special issue. The architect of the hall, William Harris, was of Bristol.

Architectural Association

Members of the Architectural Association held a conversazione and dance in celebration of the reopening of their premises in Bedford Square, to which they removed from the Royal Architectural Museum, Westminster, in 1916. The modern character of the Association's educational work was illustrated by an exhibition of cinematograph films showing various building processes, and a display of drawings from Boston, U.S.A., and L'Ecole Nationale des Beaux Arts, Paris. The total cost of the new school premises and alterations amounted to more than £20,000, and an appeal will shortly be issued for the creation of an endowment fund.

Scottish Housing

Up-to-date tenders for 5,000 houses have been approved, under Part III. of the Housing of the Working Classes Act, 1890, by the Scottish Board of Health. These tenders, however, have been submitted by comparatively few local authorities, and the Board, in a circular just issued, call attention to the great need for speeding up. The Board are inclined to the opinion that in many cases, more especially in the rural areas, delay is due to the infrequent meetings of the local authorities, and to the practice of submitting all matters connected with the scheme to the authority for a final decision. The Board advise the local authority to delegate their powers under the Housing Acts to a committee, and suggests that this committee should be given wide discretionary powers.

Zeebruge Memorial

A memorial fund is being opened in this country to commemorate the great achievement of the British Naval Forces in closing the entrance to Bruges Canal on April 23, 1918. As no doubt our readers are aware, the memorial fund was formed on the initiation of the City of Bruges, and under the auspices of the Anglo-Belgian Union. The burghers of Bruges promised £5,000 towards the memorial, and presented a site situated about 30 yards from the spot where the exploit took place. A competition for designs for the memorial was held, the first premium being awarded to MM. Joe Smolderen and Dupont, whose design was illustrated in THE ARCHITECTS' JOURNAL of December 24, page 769. The Committee hope to be able not only to erect the memorial, but also to give substantial financial ass ance to recognised naval charities. Full particular the scheme may be obtained from the secretary, at Victoria Street, Westminster, S.W.1.

London's Roman Wall

A fragment of London Wall has been revealed excavations for a new building in an angle formed Coleman Street and London Wall. It is a section the footing of the original Roman wall, upon which mediæval wall was afterwards erected. The mate consists of ragstone, with alternate layers of red ti after the Roman manner.

Sir Robert S. Lorimer, A.R.A.

Sir Robert S. Lorimer, A.R.S.A., F.R.I.B.A., has been elected an associate member of the Ro Academy, is 56 years of age, and was educated at Academy and the University of Edinburgh. On co pletion of his articles with Sir Roward Anderson, LL Sir Robert passed the R.I.B.A. examinations, sub quently entered the office in London of Mr. G. Bodley, and commenced practice in 1893 in Edinbur Sir Robert has designed a large amount of ecclesia work, among the most notable being the Chapel of Thistle, at St. Giles's Cathedral: St. Peter's Church; b at Edinburgh; and the organ case, choir stalls and ot fittings in the choir of Dunblane Cathedral. A la number of houses and restorations to Scottish mansi have also been carried out from his designs.

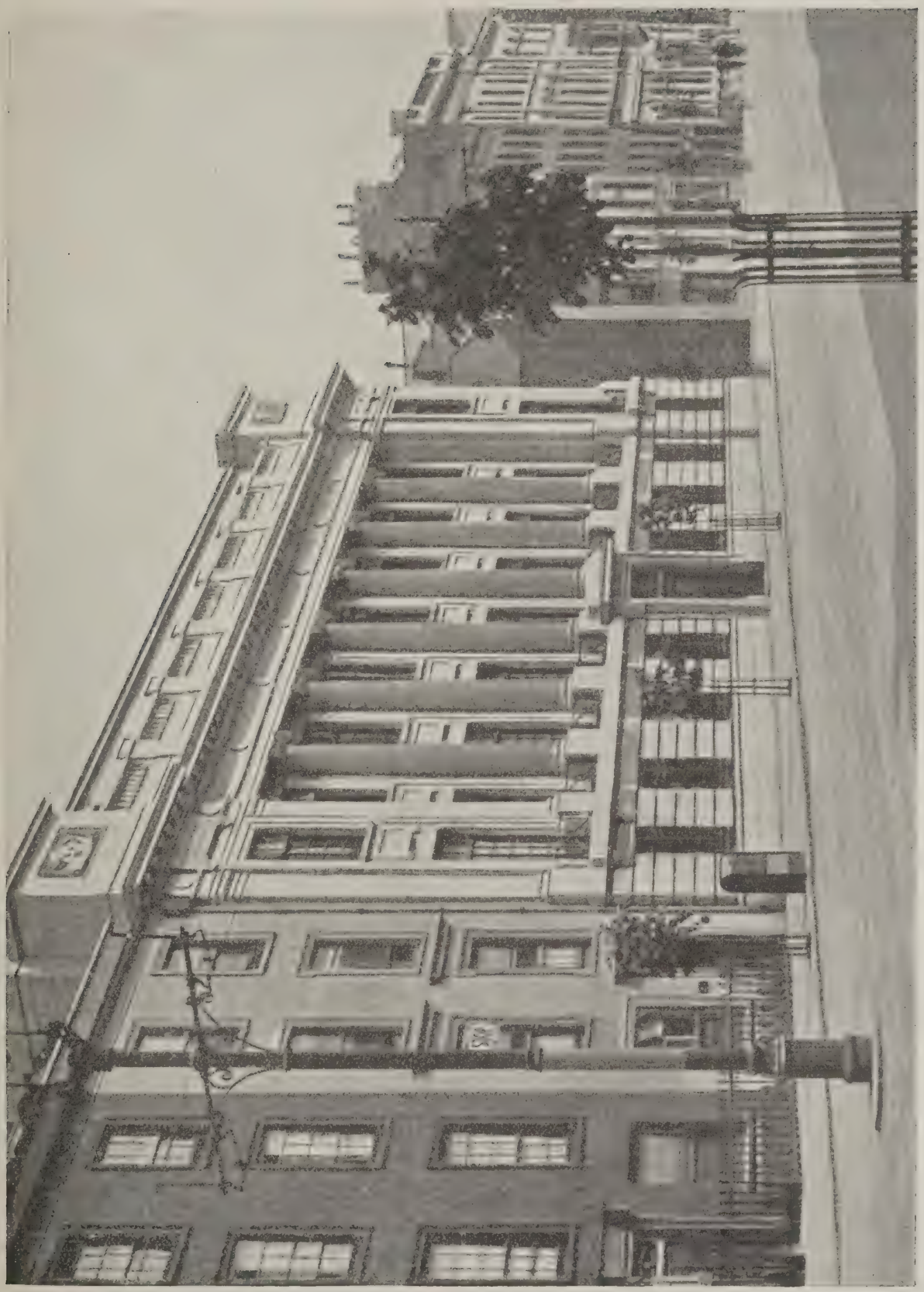
Compulsory Land Purchase for Housing

The Ministry of Health have announced the first awa under the Acquisition of Land Act as to the price be paid for land acquired compulsorily for housing p poses. The two sites are in the Uxbridge Urb District, and are typical of two kinds of cases which of arise under the Act. In the first case the value of land was in dispute. The owners claimed £3,106 the site, which has an area of slightly under four acr The District Council submitted the value as £1,700. T Official Arbitrator, Mr. Howard Martin, P.P.S.I., awarded £2,162. In the second case no reply received from the communications made to the owne the notice to treat being simply ignored. The site w valued on behalf of the District Council at £487, and t amount was awarded. The Arbitrator, in view of t circumstances of the case, ordered the owners to pay th own costs and to pay the costs of the acquiring author incurred since October 9th, 1919.

Housing Schemes

New housing schemes submitted to the Minis during the week ended April 17 numbered 111. T total number of schemes submitted by local authorit and public utility societies is now 9,639, comprisi about 66,500 acres. The schemes approved now numb 5,794 and comprise about 45,600 acres. One hundr and twenty-five lay-out schemes were submitted and approved during the week, bringing the total numb of lay-outs submitted to 3,699 and the number approv to 3,049. House-plans representing 4,236 houses we submitted during the week, and plans for 3,885 hous approved. The total number of houses represented all the plans now submitted is 183,027, and in the pla approved 170,654. During the week tenders were su mitted for 2,802 houses. Tenders for 2,516 were a proved, bringing the total number of houses in tend submitted to 104,107, and in tenders approved to 93,2 By the end of March 1,239 houses were completed wi the exception, in some cases, of painting.

Arthur and H. H. Hill, Architects



An important building of excellent proportions and admirable restraint. The treatment above the cornice is worthy of note, as it adds considerably to the general effect of quiet dignity.

M. Victor Laloux: The Man and His Work

By H. BARTLE COX, A.R.I.B.A., Ancien Elève, Atelier Laloux

Introduction: Classical Architecture by Classical Education

"Evolution" constitutes a "School."—Axiom illustrated by the life of Monsieur Victor Laloux, Inspecteur-Général des Bâtiments Civils et Palais Nationaux.

ARCHITECTURAL education in England receiving close consideration, a few facts concerning the training of an architect universally acclaimed should arrest attention. ese facts demonstrate the thoroughness of the ucational system of his country; system which had its igin in royal demand, was developed on classic tra-ion, and is now a national evolution. It offers to y Frenchman who embraces architecture as a profes-n the possibility of a world-wide reputation.

All lovers of concerted action, and who desire to see e architectural endeavours of their country raised to e same standard of civic excellency as is possible in ance, should be acquainted with the details of the ucational biography of at least one influential Master the Ecole des Beaux-Arts.

Individual Effort versus Communal

The days for a "Roi Soleil" are over, but the Ecole s Beaux-Arts exists, and no other school of archi-cture in the world can claim to offer such an efficient ining in Classic* architecture as this rationally organ-d institution. No amount of effort on the part of dividual architects in any country can be of much ail unless there be established one single "school"—olution based upon tradition—and, for civic work, pported by the body politic.

In England such a school exists for domestic archi-cture because the people will have comfort. Should ey demand the highest form of civic decoration, and ould their rulers reach to an understanding of the portance of æsthetics, as apart from engineering and chæology, in modern classic architectural composition, e National Classic School would arrive as a natural nsequence†. For the moment it is but tentative, as e necessity is only partially felt, but if ever it came full bloom as a national pride, it ought to flourish en better than in France, where, after all, it is but a se conservation of a fine royal imposition. In the ent of the country's ambition lying in this direction, nglishmen must make haste if they wish to outstrip e Americans in the race for architectural world premacy.

America is a democracy; and France at the Revolu-n retained the academies imposed by the most lightened of despotic governments.

A good seed sown in the well-prepared architectural il of France comes to full fruition, whereas the same ed, if sown in stony soils, will be badly nourished and e fruit poor.

Monsieur Laloux, as all great French architects, owes s technical attainments and professional qualifications much to State organisation as to personal capabilities.

Training Means Education

The education of an architect in France is differently nceived from what obtains in England.

Training in France means education in the original nse of the word; that is to say, an endeavour is made bring out by encouragement that which is in the pil, rather than by tyranny to try to put into him something which is not his own, or something which he is incapable of digesting. "It being impossible to make roses out of dandelions, better a fine dandelion than a poor rose."

As the cultivation of "the individual effort for the benefit of the communal output" is aimed at, vague terms such as taste, correct, restraint, etc., are relegated to amateur coteries.‡

The pupil is encouraged to do his own thinking, to arrive at his own appreciation of qualities. The professor's rôle being one of developing self development rather than the teaching of ethics to a band of willing slaves—an artist is something more than a poor imitator.

Organisation of Training at the Beaux-Arts

The organisation of the Ecole des Beaux-Arts is such that professorship in architecture is, more so than in any other country, national in the widest sense of the word. Idiosyncrasies, small ideas, and petty predilections of a professor are eliminated, being absorbed in the voice of a large jury. It is, therefore, in the interest of each separate professor (or director) to develop the individuality of each student rather than to put into each his own restricted mentality.

The function of the école is not so much to teach as to set programmes and then to judge the results.

The expenses of the institution are defrayed by the State; admission is by competitive examination.

THE STUDENT

Pensionnaire Villa Medicis—Professional Pedigree —Ecole des Beaux-Arts

Early Influences

M. Victor Alexandre Frédéric Laloux was born at Tours, Indre-et-Loire, in 1850, and made early studies in science and literature at the lycée of his native town. For two years he had preliminary architectural experience in the office of M. Rohard, architect, at Tours, previous to entering the Atelier André at Paris for the Ecole des Beaux-Arts, at the age of 20.

The war with Prussia broke out, and from September to February, 1870-71, M. Laloux was at the front; this was, fortunately, the only military service to interfere with his studies.

Ecole Distinctions

While at the Atelier André M. Laloux gained all the distinctions offered by the école, which included the prize for the well-known decorative competition which goes by the name of its founder, Rougevin.

Grand Prix

M. Laloux was three times Logist§, and in 1878 won

By "classic" the author means of "highest rank," evolving on the rank" (not branches) of the tree of development.

Jones, Chambers, Cockerell, etc., have had an influence on English work, no great national school of "training" has been organised to develop ng any specific lines.

"The pseudo-revival of medievalism has occupied the stage for a long time, the architect, agent of his client, has rejoiced in the romantic fad which only just realising its unreality. The student is still in search of uthority."

‡ "Taste" is non-technical: "correct" is archæologic; "restraint" is dis-spiriting. Heavy, fantastical, overloaded, would be more definite in their meaning.

§ The Grand Prix is offered by the Institut de France and not by the école. The competition is composed of three examinations open to any Frenchman under thirty years of age.

From the first, or eliminating examination, forty men are chosen to sit for the second, or twenty-four hours' esquisse (sketch project); from this latter examination ten men are chosen to sit for the ninety-six hours' esquisse, which is done by each in a separate room or loge (where they have their bed, etc., for four days)—hence the term Logiste. These ten "Logistes" have three months to develop and render their esquisses. From this final examination are chosen:—

Le Premier Grand Prix (who goes to Rome), Le Second Grand Prix, Le Deuxième Second Grand Prix (both of whom can compete again). So far, no Frenchman who has not benefited by the école training has shown himself capable of winning a Grand Prix.

the First Grand Prix de Rome. While pensionnaire at the Villa Médicis he studied extensively, making measured drawings, water-colours, restorations, etc., chiefly at Torcello, Athens, in Egypt, and Asia Minor, and notably at Olympia.

Before going to Rome, M. Laloux had studied for eight year at the école, and was responsible for about 40 "Projets" (architectural compositions) studied, rendered, exhibited, and judged, irrespective of the Grand Prix competitions.

Villa Medicis Centre of Culture

The winners of the First Grand Prix de Rome enjoy an unparalleled intellectual opportunity; for four years they study, after having been proved capable of reaping benefit, the best works of the past, chiefly in Italy and Greece, with Rome as their headquarters. The students are expected to send home each year a certain amount of serious work, which is publicly exhibited in Paris.

The famous Villa Médicis, seat of the French Academy of Art since 1803, unites in friendly intercourse at Rome the young and enthusiastic cream of scholars in painting, sculpture, engraving, music, and architecture, with a distinguished artist at the head. The élite of learning of any nation at Rome are always the invités of the Villa Médicis.

Upon the home-coming of the students, they are generally given some post of importance. Many become big practitioners, as well as carrying on an atelier* in connection with the Ecole des Beaux-Arts. Thus the present is evolved out of the past; "La Citta Eterna" lives in "La Ville Lumière."

It would seem that no sounder organisation for the evolution of architectural composition was possible of conception. Be that as it may, a better theory less generously patronised must be inferior in results.

Professional Pedigree

A great and undisconnected tradition is behind all French architectural students of the Beaux-Arts. The professional pedigree of the Atelier Laloux can be traced back through six generations of architect-ancestors of renown, as follows:—

M. Laloux: Won Grand Prix de Rome 1878 and was pupil of M. André (Louis Jules), Grand Prix 1847. Discovered traces of architectural colouring, Paestum. Built Musée d'Histoire Naturelle, Paris, etc. Professor at Ecole des Beaux-Arts. Succeeded Labrouste in direction of atelier. Died 1890. Was pupil of Huyot and de Lebas.

M. Huyot (Jean Nicolas), Grand Prix 1807. Carried out with Goust the continuation of the works of the Arc de Triomphe de l'Etoile, Paris. Built French Hospital, Constantinople. Studied under the painter Louis David. Died 1840. Was pupil of

Ant. Fr. Peyre (Peyre le jeune), Grand Prix 1762. Adapted the Hôtel du Prince de Salm into the Grande Chancellerie de la Légion d'Honneur. Entered the Académie d'Architecture 1777. Opened atelier, attended by Percier and Fontaine. Died 1823. Was pupil of his brother,

Marie-Joseph Peyre (Peyre l'aîné), Grand Prix 1750. Published book on architecture of Rome. Became Controller of Royal Buildings, and later of the Château de Fontainebleau. With Wailley constructed the present Odéon Theatre, Paris. Died 1785. Was pupil alternately of

Jossenay, Loriot, Jean F. Blondel: All three professors at L'Académie Royale d'Architecture. This academy was founded by Colbert 1671, suppressed at Revolution, 1793; replaced 1795 as a branch of the "Institut National."

The appellation Ecole des Beaux-Arts dates only from 1816, when the two academies of fine arts (painting and sculpture, and that of architecture) were amalgamated: but the institution from an architect's standpoint had its origin in Colbert's Academy of Architecture, 1671.

There were two architects of the name J. F. Blondel, both professors at this academy. One was J François, and the other was Jacques François Blon Brigadier-General to the armies of Louis XIV. It Jacques Blondel who in 1743 first started the at system, since become the chief feature of French ar tectural education.

M. Laloux's atelier can boast of an uninterru traditional development of 176 years (1743-1919) of 169 years of Grand Prix de Rome men (1750-191

Ecole versus Apprenticeship

M. Laloux never worked as a paid assistant in one's office, preferring to devote his student life ent to the consideration of self-development. This pr dure might seem strange to the English mind, so pregnated with a wrong interpretation of the medi principle of apprenticeship, and with the quaint co of belonging to a practical race. The Ecole des Be Arts, however, offers a much more thorough educa than can be obtained under the direction of any architect. In the best of offices the student or assis is subjected to the restricted influence of the parti office. The mind of the assistant is always dulle the unavoidable meanness of professional practice, t ing to curb his ardour and to stunt his growth befor becomes a developed designer.

The Ecole requires students to pass examinatio mathematics and construction, etc., as well as in d ing, modelling, and architectural composition. question of professional practice, as distinct from fessional qualifications, is a commercial considera open to the student to study where and when he th fit. All study at the école must be done before student is 30,† and it is possible to finish all the n sary study for the Government diploma by the ag 21. Grand Prix de Rome men alone have the ad tage of another four years' theoretical work, but no can win the Grand Prix after 30 years of age.‡

Architectural composition is not learnt by stud law, and when first-rate architecture is really requ there is every reason why a semi-architect with a sma ing of law, even though he be a capable organiser a working knowledge of building, cannot be consid (in a land where æsthetics count) as a suitable A tecte-en-Chef, if architecture, properly speaking, be his chief concern.

To become a capable designer requires a deal of and experience, even by a man who feels his voca That particular knowledge and capability is not quired or developed by simply dabbling in the so-c practical side of building operations any more th great knowledge of engineering can be acquire studying the orders.

When important issues are at stake, the best re are obtained by the co-operation of the best advic

A position as draughtsman may be a useful add to a man's experience, but it is only a makeshift garded as a source of education.

An architect, however great is an "Employeur his office, but a "Maître" in his atelier. In the experience is *picked up;* at the école it is *acquired.*

True practical experience is the natural corollary solid theoretical foundation, and the chief concer the architect, properly so called, is that of architect the rest is a question of intelligence and co-operatio

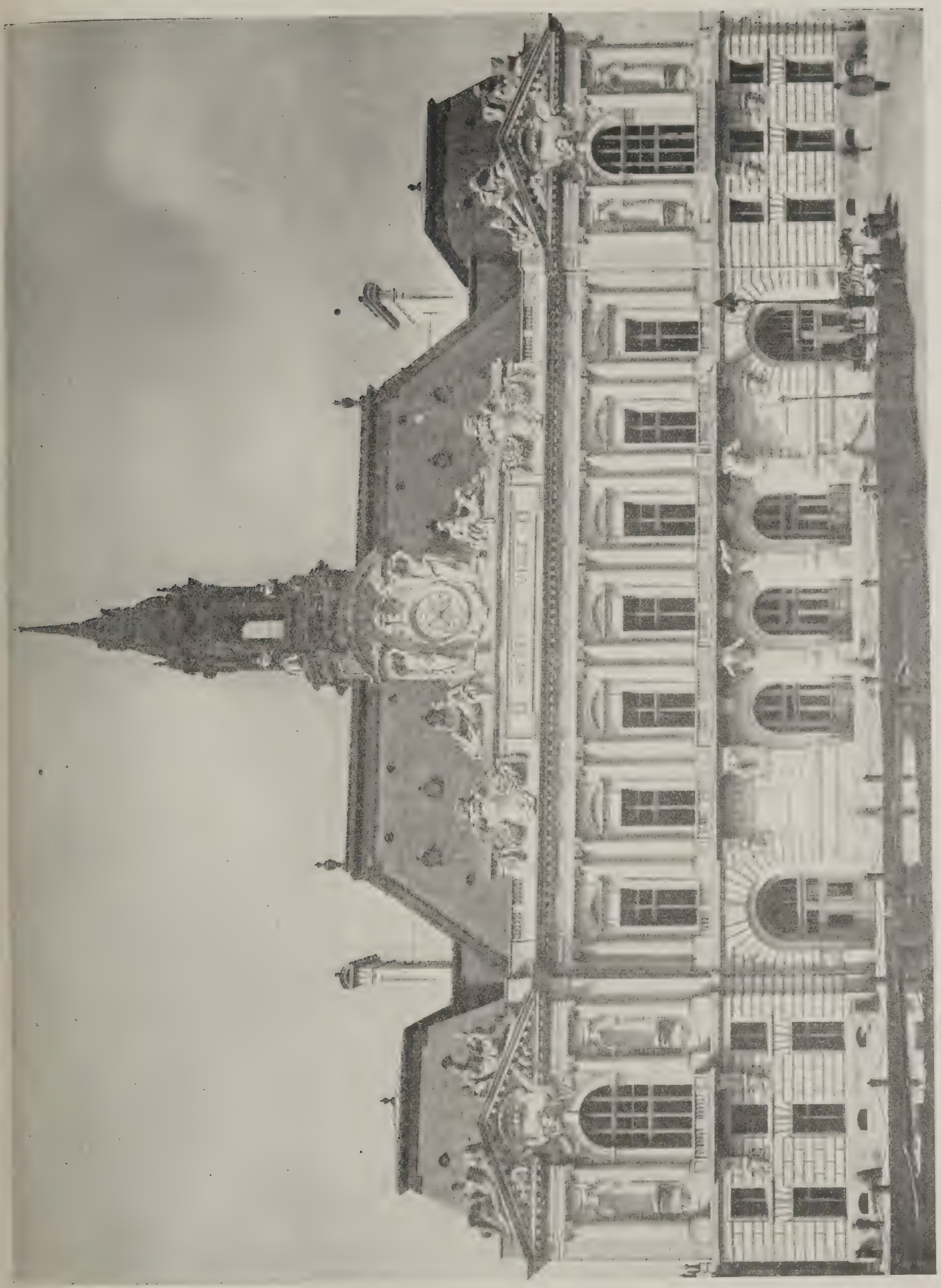
M. Laloux, feeling his vocation, set out to beco master of architecture, and has since been univer recognised as such: his life, merely as an architec student, extended over 14 years: two at Tours, eig Paris, four at Rome. A formidable preparation finally won success.

As to the question of the efficacy of assistant e rience, M. Laloux's career as "Practitioner" is answer. This will form the subject of the next art

(*To be continued.*)

* An atelier is a place for working in. Study or studio for students under a master, as distinct from an office; from the Beaux-Arts point of view, a part only of the école training.

†‡ Owing to the war this has been extended to thirty-five for a period.



A singularly well-balanced composition, typically French in the conception and in the decorative features, which occur in such regular alternations as to produce a symphonic effect. Although the sculptured details are used rather lavishly, the architect has shown a complete mastery over them.

French Façades. 2.—Town House, 28, Boulevard Malesherbes, Paris

Paul Sedille, Architect

A most delightful façade, with much subtlety in the composition; one feature seeming to echo another—as where, *e.g.*, the rustication of the lowest storey is repeated in a minor key, as it were, two stories above. The whole front is an instructive study in the rhythmic harmony of recurring or alternating features.

Architectural Causerie: Dublin Re-visited

HE other day, walking along Sackville Street, Dublin, I was struck with the real progress made in the rebuilding of the damaged premises, and resolved to record my impressions ese columns. We London architects have, generally king, but a hazy idea of professional happenings ss the Irish Channel—so few of us have any occasion nake the journey thither. What wonder if, consently, the number of persons who have little or no wledge of the architecture of Ireland is legion?

* * *

ly pen this week jots down a few impressions casually rded at a time when the Irish people as a whole were ibiting extraordinary restraint under very crucial litions. I am no stranger to the streets of the city he Liffey, which by degrees I have come to regard replica of London as it must have appeared in the eighteenth century, when Canaletto etched the ous silhouette. Indeed, the resemblance to certain s of London is remarkable. Imagine squares five s larger than the biggest of London's open spaces, e streets of fine brick houses, almost as they existed n James Malton depicted them in his "Picturesque Descriptive View of the City of Dublin" a hundred twenty-five years since; magnificent compositions, he most refined classic manner, architectural railway ions, canals lined with trees reminiscent of Holland, stone bridges galore. Very few advertisement rdings mar the mise-en-scène. The sky-line of the is placid. There are few cinemas and no motornibuses, but there is the best tram service in the kingn, and a very obliging set of drivers run the national s. Dublin is a fascinating place, and one well suited a resort for those tired of the provincialities of ndon. That may pass for a bull, and so may this: uld my readers desire a more vivid picture of the ect of London in the past, let them pay a visit to blin.

* * *

During the past ten years much has been done to tidy the litter and to arrest the decay of the ancient city the Liffey. In Merrion Square or Stephen's Green re are now no houses to let. Henrietta Street s respectable as it was in the days of Grattan and Sir mley Skeffington. Barring the pother in Sackville eet everything is orderly, and I trust it will not be g before the shell of the General Post Office is filled the memory of Francis Johnston, without disturbance the foundation stone laid by Lord Whitworth in 1814. all the capitals in the United Kingdom, Dublin has sense of civic pride most highly cultivated. If a rd of advice to our Irish confrères were allowed, I uld say that it would be well to pay even greater atten to the preservation of Georgian houses in congested as—to use the pickaxe with discretion, and confine nolition to the clearing of back yards, with the subution of open spaces, rather than to resort to drastic uilding. There is life in the ould bricks yet. Dublin not vulgar, she is wistful and sad in demeanour; melred brick, grey granite from Dalkey, silvered Portd stone, make for refinement. Neither can the city likened to some worm-eaten piece of antique furnie. On the contrary, she is as rare as old Irish silver, d her sashed windows are as priceless as old Waterd glass.

* * *

Although the old buildings of a city fascinate an archit from another centre, while the collections of ntings and furniture in the museums and galleries st of necessity be studied, the vital aspirations of a ntry can best be judged from a survey of present leavour. In Dublin many fine buildings are in pross. Mr. R. M. Butler has recently completed the new university, a building of dignified character reminiscent of Gandon's work. I had an opportunity of inspecting this building, and noted with much pleasure the excellent planning and the reticent character of the detail. Mr. Butler has contributed very fully to the national collection of churches, some of which have been illustrated in the pages of this Journal, and it is a pleasure to congratulate this eminent Irish architect on his recent achievement in the strictly classic field.

* * *

The new buildings in Sackville Street consist in the main of commercial premises. There are buildings erecting from the designs of Messrs. Beckett and Harrington, and others by Mr. O'Callaghan, all of which reveal scholarship and efficiency. Mr. Dewhurst, architect to the Great Southern and Western Railway of Ireland, has carried out a neat addition to the Kingsbridge Terminus, without disturbing the symmetry of Laneton Wood's design; the porter's lodge to the carriage entry being exceptionally good, simple as it is. There are excellent designs for small properties in some of the lesser thoroughfares, and several old Georgian houses have been most successfully refronted.

* * *

Among other buildings recently altered I would like to mention the interior treatment of a little restaurant called the "Bon Bouche"—a delicacy in itself. This work, I understand, has been carried out by Mr. Cyril O'Keefe; it is in the best manner of the late 18th century. There is not much architecture about the design, and it is all the better for that, for the old work never savours of architects' architecture. Mr. O'Keefe has kept his decorations under discipline, and devoted his attention to the essentials. He is to be congratulated on the tasteful furniture, the dainty chairs, tables, and colour scheme. It is possible to dine at this restaurant, thanks to the architect, with all the grace and fastidious taste of our great-grandfathers. No wonder it has become popular with Dublin artists.

* * *

Never at any time in her sadly chequered history has Ireland needed the leadership of a Society of Artists as she does to-day. There are numerous guilds for the revival of art and industries. The Architectural Association of Ireland is working at high pressure to promote study and taste among young architects, and the demand for building on sound lines is just as much to the fore in Erin as it is here.

* * *

Ireland has suffered from absenteeism for a century. The wealthy patron became extinct when the Act of Union was passed. Some opined that a new era of prosperity had dawned when the North developed the industries of linen and shipbuilding—a hope, alas, unrealised so far as architecture is concerned. The true wealth of Ireland lies in the South. There the national tradition is most strongly planted. Efforts have been made, not without success, towards the revival of agriculture, and this has occasioned the remodelling of farmhouses and small holdings. There is a brilliant future before Ireland once the political horizon is cleared. She is destined to become the natural gateway to America. Her architecture will revive when her western ports are developed and her transport facilities are improved. Let her then prepare her craftsmen by the thousand, let her guilds establish carpenters and joiners in every village, to make chairs and tables as their grandfathers did. Above all things bid emigration cease, and then the country will develop on right lines, free from foreign exploitation. As for our architect friends in Ireland who have these things at heart, more power to them!

AERO.

The Future of Architecture

By Professor A. E. RICHARDSON, F.R.I.B.A.

(Concluded from No. 1320, page 524.)

FROM the best examples of the original Renaissance in Italy will be studied motifs suitable for monumental architecture. The astylar palaces of Florence, Venice, and Rome can be recast for halls of commerce, for club premises, for libraries, and for banks; the main reason being the underlying rich simplicity and architectoric value these buildings display. For buildings of the first magnitude, needing the subordination of many large halls to a dominant motif, attention will be paid to French methods of planning. With this reservation the French know how to plan and deal with traffic, but their elevations leave much to be desired, mainly because the French have developed the theory of designing in one plane at the expense of the conception of the whole. In like manner for monumental character, the official buildings of London, Dublin, Edinburgh, and Liverpool will be studied, not copied *in toto*. We shall send students to Russia to learn the character of the official buildings, schools, and institutions. Others will go to Spain to appreciate the pleasantries of cornice, balcony and ironwork. It will become the custom—in fact, part of every architect's education—to journey to America to see Europe reflected. In the future, architecture will receive its patronage directly from the State, the merchant princes, the great corporations controlling transport, and, what is of ultimate importance, from the needs of the people. Tradition can and must be called upon to guide those entrusted with the expression of enterprise and civic dignity if the result is to be worthy.

Local tradition, however good, will not suffice. An Englishman might obtain inspiration from Gandon's work in Dublin, and an Irishman from a study of St. George's Hall, but to expect either to subsist on a study of the buildings in their immediate vicinity is expecting too much. Architecture, if it is to flourish, must continually receive fresh inspiration; local tradition in particular needs such sustenance. Universal tradition, on the other hand, is capable of almost endless transposition. We architects must lose no opportunity to engender the spirit of civic pride among our fellow citizens. This again is an opportunity for the schoolmaster. The theory of a city should be taught even in the elementary schools. We should encourage closer co-operation between architects, painters, and sculptors. I would not exclude etchers, engravers, furniture makers, or any good craftsmen. Every village in the United Kingdom should have its village carpenter—architects residing in out-of-the-way places should take the place of the old-time patron, who now, unfortunately, is non-existent.

After all, the architecture that affects the people, that directly represents their lives and ambitions, concerns the design of houses, and here is the kernel of the whole subject, and one needing careful revision.

You may well say, how does tradition affect the subject of domestic architecture? Nevertheless it does, and that in a peculiar way. During my travels in Ireland, Scotland, and England, I have kept my eyes open to many things. I have seen the stone-fronted and sashed windows of Newry, the eighteenth-century brickwork of Belfast, the strait-laced eighteenth century brick coats displayed in the squares and streets and along the quays of Dublin. The long, low cabins of Galway and Donegal have arrested my attention. I have compared these simple buildings with similar types in England, particularly the work in Cornwall. In Dublin I have seen a reflex of London, in Kingstown and Cork an echo of the stucco-fronted houses of Cheltenham and Tunbridge Wells. I have looked upon these buildings as excellent motifs, not for the internal arrangements, which leave much to be desired, but for the idea of breadth, simplicity, and appropriateness to the scenery, the touchstone of universal tradition to such works. They belong to the national or regional branch. Why is it necessary for Irish architects to follow the prevalent fashion of England and import ideas of hooded gables and half-baked systems of tile-hanging, to say nothing of the works of the speculative builders in both countries, when such excellent material as that offered by the Irish section of the national tradition is available?

What a book could be compiled from the country buildings of Ireland, and what a magnificent sermon could be preached regarding the beauty of direct statement these buildings show! Much has been done to improve housing conditions in country districts.

If the cottage tradition of Ireland clings to the bungalow type, then let the bungalow cabin be of the best—it is a tradition shared by the cottar in Scotland, and the smallholder in the West of England. If the bricklayers, speculative builders, carpenters, and plasterers of the eighteenth century, working under the influence, if not the guidance, of two or three architects, but more often led by the doctor and lawyer, could produce such magnificent arrangements of doors and sashed windows as those enriching Dublin, why is it not possible for the tradition to be extended to-day? No, the demon of unrest has seized us, we feel compelled to express ourselves. It is hard for an architect to dispense with fussiness. He frequently lacks courage to show his client a plain building; and of the clients—the least said the better. I know from experience that it is more difficult to design a building richly simple than to produce one prolifically ornate.

In my statement of the future of architecture, I have attempted to review centuries of building enterprise. I am content to follow the theory of tradition with the exemplars of the past. We must enlarge our mental view of the world's building in order to advance taste; more broadly and with truer instinct we must add our quota to history if we would compete with acknowledged masterpieces. No longer shall we hearken to the false doctrines of those who cry continually for something new, or to the teachings of those who put the arrangement of a plan above everything else, or to those who expect a new style to arise from a few pieces of iron mixed with concrete.

Frequently we hear it expressed that plans should be considered first, and t elevations. Rather we should cultivate repertoire. It is the mental picture really matters, the preliminary concep —in other words, the idea. The distinc between the best work of the past and of the present day lies in the truth that old work embodies an idea, and theref possesses soul, while the majority modern buildings, conceived in terms plan arrangement, rel on chance for t vertical expression, and seldom it is the two things fit.

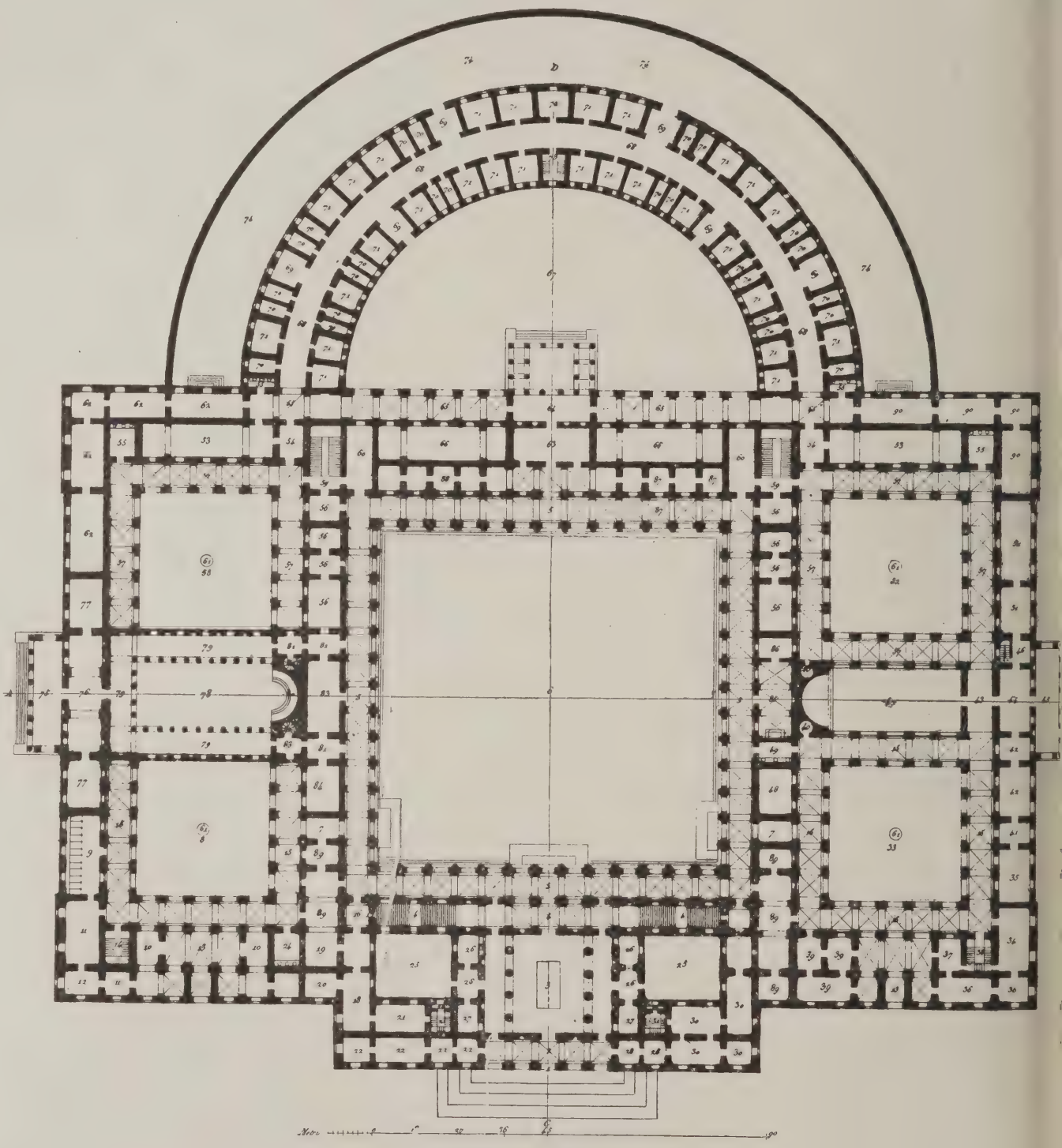
While advocating the adoption of versal tradition for civic architecture would have designers study the necessi of localities. There must be the archi ture of the city, with its various divisi ranging from the civic centre to the c mercial and the educational quarters, to district of the professional classes, various residential centres, and from th to the suburbs, the latter trailing off gra ally into the country without the deme of an abrupt and ragged seam. The t of buildings proper to country towns ne to be studied, as well as the regional t of domestic buildings suited to the villa or to the purposes of farms or small h ings. It is all so absurdly simple and very obvious; perhaps because of th simplicity the elementary facts esc our eyes. If we were consistent should hear no more that man made town and the devil designed the subur Absolute perfection can never be attain Because we are in the picture, we can view the immediate progress, but we kn intuitively that design loses about as m as it gains, and while we are congratul ing ourselves on one achievement thing we are striving for escapes us. Wh we pause to admire the masterpieces other days we are really in the most adv tageous position, for it is then we ge picture of the ideal; it is then we ma good things appear better and more ven able in our imagination, and it is then feel the desire to emulate such work.

Although I hold dear the stones bricks of Dublin, and have affection the character of the buildings of all land, I have avoided more than a pass reference to the spirit of the traditio work in this country. The present, h ever, is not inopportune to acknowle my indebtedness to the art treasures of land, and to praise the memory of great artists who produced such works.

Nothing expresses the character of nation more than the aspect of its bu ings. It is from the seemingly st façades that we obtain our best and last impressions. When I visit Dublin I f the welcoming smile still apparent on classical features; her character ne study she must not be judged too has by visitors; she has a perspective and venerable past, all of portent for future; her traditional buildings are dead or meaningless, for the spirit of being is Ireland. In the architecture Dublin is reflected the soul of the natio tradition. It is England, Scotland, a Wales once again, a pale-tinted reflex the classic of antiquity, half suggesting inspiration of the future and embodyi the essense of the classic spirit.

Monumental Planning.

Frances

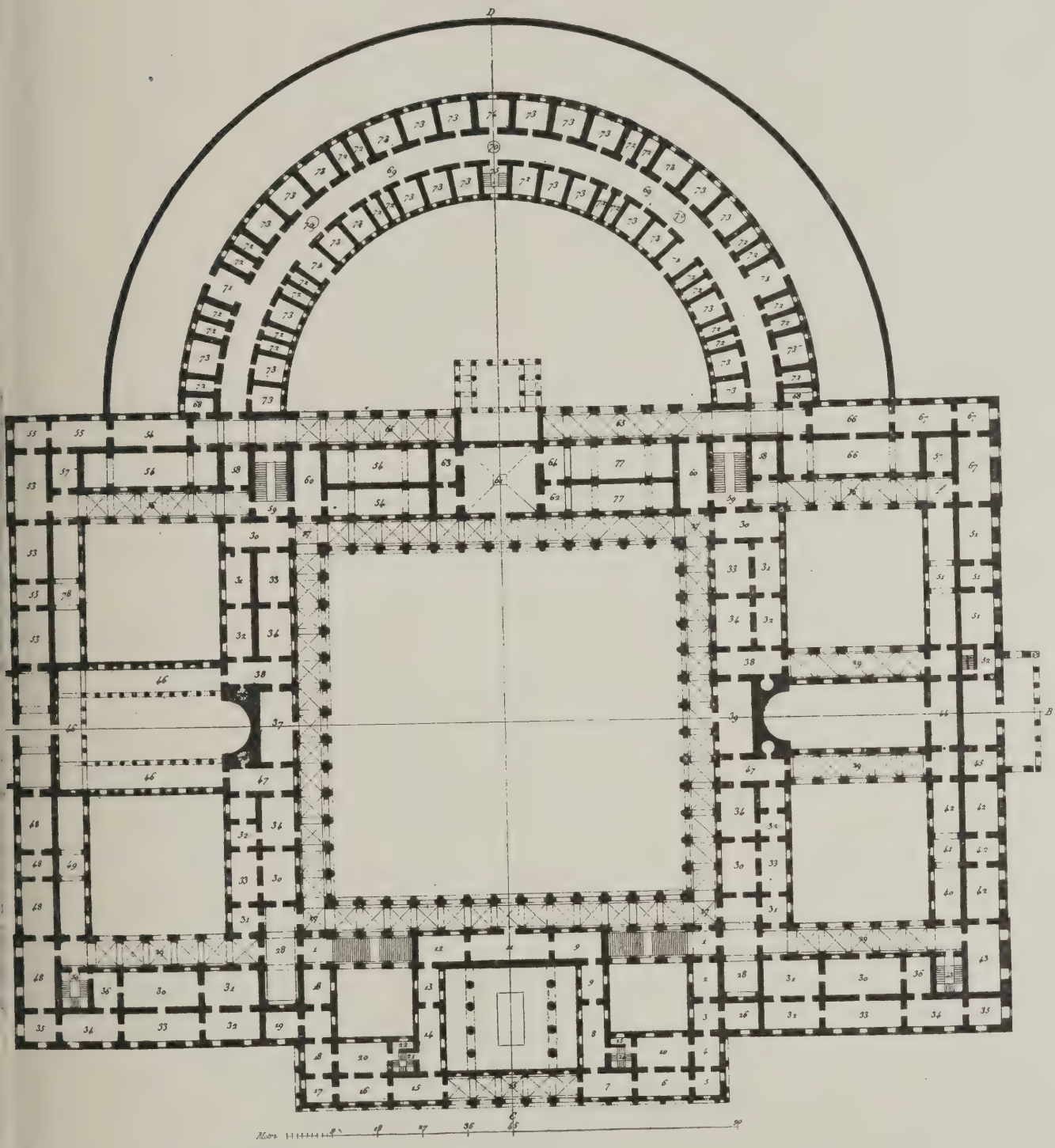


Ground Floor.

Between 1805 and 1827, the Royal Academy of Arts of Milan hel
magnificent folio volume (Milan, 1824). The plans here shown, which w
etc. Views of prison management and discipline have greatly change
immediate object— are,

for an Italian Prison

chitect



Upper Floor.

itectural Competitions, the premiated designs in which were published in a 311, were for a jail for 400 prisoners, with infirmary, governor's residence, bviously these plans have many enduring points of interest apart from their example of arrangement.

'he British Society of Master Glasspainters

T a meeting of master glasspainters held at Staple Inn, London, under the presidency of Mr. Selwyn ge, the Provisional Committee of the e Society presented their memoran- of resolutions for consideration, and as unanimously decided that an asso- on be formed with the above title and ollowing objects :—

To advance in every way possible the is of the craft of glasspainting in this try as an honourable and artistic ession.

To endeavour to preserve and keep his country its heritage of ancient ;—

) By influencing public opinion;

) By advice or suggestions when can be offered.

To further social intercourse ngst the members of the Society.

To spread and increase all know- e and skill in the craft of glass- ting.

ne following resolutions were adopted a provisional constitution of the ety :—

alifications and Classes of Members

hat there be three classes of members: ows, Associates, and Hon. Fellows.

hat the first two of these classes be scribing members, and the last class non-subscribers.

ellows shall be persons of not less n twenty-five years of age, who have a regular training in the craft of a ned-glass artist, and have, for at least years prior to the date of their appli- ons for membership, carried on the iness of stained-glass artists, as sters, or as members of a firm of ned-glass artists, or who are respon- e designers and directors in the craft stained-glass, or who have by their lished work provided a knowledge of ned-glass, and who shall further pass h examination (if any) and comply h such conditions as the General ncil may from time to time prescribe accordance with these Articles, subject ertheless to any examination or test ng dispensed with in such cases and such conditions as the General Council y from time to time determine.

ssociates shall be either (1) persons not less than twenty-one years of age, rying on the business of stained-glass sts, as masters, as aforesaid, but who e not done so for a period of five years or to the dates of their applications; or persons of not less than twenty-one rs of age working at the craft other- e than as masters. Both of said sses of persons shall satisfy the neral Council that they have had a ular training in the craft of stained- ss, and shall further pass such ex- ination and comply with such other nditions as the General Council may for time being prescribe in accordance h these Articles.

Honorary Fellows shall be persons who, reason of their positions or of their inence in art, or their experience, pear to the General Council from time time to be able to render assistance in moting the objects of the Society, but o are not engaged in practice as stained-glass artists in any part of the United Kingdom.

Women shall be admitted to the Society as full members, and on equal terms with men.

The election of members shall be vested in the General Council to be constituted as hereinafter provided. Nominations of Fellows and Associates shall be made to the General Council direct, and must be signed by two Fellows of the Society. The Council shall have power at any time, on good cause shown, to cancel the membership of any member. But no member's membership shall be cancelled until he has had an opportunity of being heard in opposition thereto.

Associate Members desiring to be raised to the rank of Fellow shall be nominated in manner hereinbefore provided for the nomination of Fellows.

Honorary Fellows may be admitted by the General Council *ex proprio motu.*

The General Council shall have power to make such by-laws as may be deemed expedient, and to vary and alter the same from time to time, but such by-laws shall not come into force until they have received the sanction and approval of the Society, either at the general meeting, or at a special meeting to be called for the purpose.

Officers

A president, six vice-presidents, twelve members of the General Council, an honorary secretary, an honorary treasurer, an auditor, and a solicitor.

Election of General Council

Twelve Fellows shall be elected to the Council at the first annual general meeting, of whom one-third shall retire each year thereafter; the one-third to retire at the annual meetings to be held in 1921, 1922, and 1923 shall, unless the General Council agree among themselves, be determined by lot. In every subsequent year the one-third who have been longest in office shall retire. As between two or more who have been in office an equal length of time the members to retire shall, in default of agreement among themselves, be determined by lot. The length of time a member has been in office shall be computed from his last election or appointment. The places of members retiring each year shall be filled at the annual general meeting at which such member retires.

Nomination for members of Council, to be elected at the annual general meeting in room of those retiring, may be made in writing and signed by any two Fellows. They shall contain the full names and addresses of nominees, and shall be sent to the secretary, at the office of the Society, not less than twenty-one days before the date of the annual general meeting, and the full names and addresses of such nominees shall be given in the circular calling the said meeting.

In the event of a sufficient number of nominations as aforesaid not being at any time made, the election to the vacancies thus arising, and to any other vacancies then existing, shall be made at the annual general meeting.

If at any general meeting at which an election of members of the General Council ought to take place the places of retiring members are not filled, the retiring members, or such of them as have not had their places filled, shall continue in office until the general meeting in the next year, and so on from time to time until their places are filled.

Any vacancies during the year in the membership of the General Council, arising from death, resignation, or otherwise, may be filled up by the remaining members of the Council by co-option, but the members so elected to such vacancies shall not hold office longer than the vacating member would have retained the same if no vacancy had occurred.

A retiring member shall be eligible for re-election.

The election of the executive officers shall be in the hands of the General Council.

The management of the business and affairs of the Society shall be vested in the General Council.

General Meetings

1. No business shall be transacted at any general meeting unless a quorum is present at the time when the meeting proceeds to business. Five Fellows, personally present, shall be the quorum of a general meeting, for the choice of a chairman and the adjournment of the meeting. For all other purposes the quorum of a general meeting shall be eleven Fellows personally present.

2. Questions arising at any meeting shall be decided by a majority of votes, and in case of an equality of votes the Chairman shall have a second or casting vote.

3. Associates and Honorary Members may attend and speak on any subject under discussion at all general meetings of the Society, but they shall not be entitled to propose any resolution, or to vote, or demand a poll on any subject, unless it relates to the making, amending, or revoking of any articles or by-laws relating to their own class respectively; and no such resolution shall be passed unless supported by a majority of the Fellows present at such meeting, apart from the votes of such Associates or Honorary Members respectively.

General Council Meetings

1. The General Council may meet together for the despatch of business, adjourn and otherwise regulate their meetings and proceedings as they may think fit, and may determine the quorum necessary for the transaction of business. Unless otherwise determined five shall be a quorum. Five days' notice in writing at least shall be given of all the meetings of the General Council, but it shall not be necessary to give notice to a member who is not resident within the United Kingdom.

2. The General Council has power to appoint Sub-Committees.

The following were elected as members of the General Council: Messrs. W. Aikman, Percy Bacon, R. C. Bayne, Reginald Bell, F. C. Eden, H. Grylls, R. Hardman, G. P. Hutchinson, J. A. Knowles. A. K. Nicholson, Graham Simpson, and Walter Tower.

At a subsequent meeting of the Council Mr. Selwyn Image consented to act as a

vice-president, and Mr. M. Drake was appointed honorary secretary.

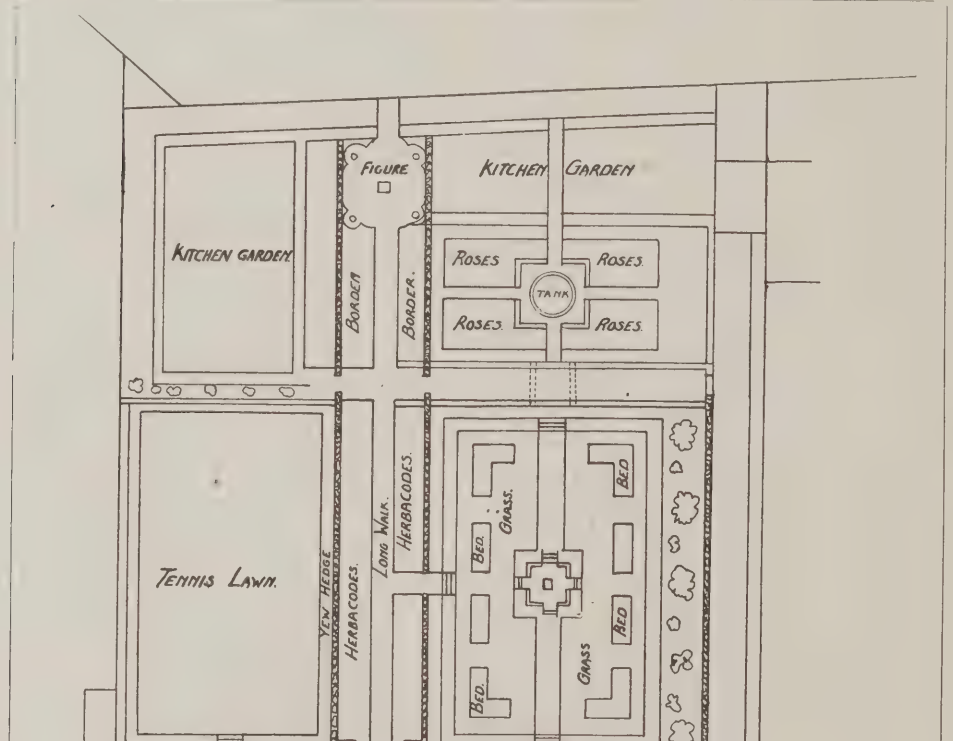
It was resolved that Mr. A. M. Powell be invited to undertake the duties of honorary treasurer.

The following were admitted Fellows of the Society: Mr. F. G. Bell (Bristol), Mrs. Bonner (Chiswick), and Messrs. R. P. Corbould, Drury, Victor Milner, E. J. Prest, Alward, and Horace Wilkinson (London).

The following applications for membership were laid before the Council: Messrs. A. E. Atkinson and T. E. Atkinson (Newcastle-on-Tyne), Abbott and Abbott (Lancaster), E. H. Atwell (Manchester), Clement Baguley (Newcastle-on-Tyne), James Ballantine (Edinburgh), H. T. Bosdet (London), Miss Margaret Chilton (Glasgow), Messrs. T. E. Dexter (Nottingham), A. J. Davies (Bromsgrove), Reginald Frampton (London), A. E. Goodhead (London), C. J. Gray (Cambridge), P. E. D. Hammond (London), H. G. Hiller (Liverpool), B. Jones (Walsall), Mrs. Kibblewhite (London), Messrs. Kayll and Reed (Leeds), E. Vincent Kelley (London), A. M. McLundie (Glasgow), W. Leyland (Manchester), B. McL. Leach (Cambridge), Wm. C. Langsford (London), William Morris (London), William Pearce (Birmingham), Leonard Pownall (Falmouth), A. C. Pike (Bromsgrove), William I (Leeds), Walter Pearce (Wilmslow), A Roe (Leeds), H. Rhodes (York), G. E Smith (London), Andrew Stoddart (Not ham), Miss Irene Shakerley (Congle and Messrs. C. F. Seward (Lancaster) Stanley Watkins (Ealing), Geoffrey W (East Grinstead), Paul Woodroffe (Ca den) and James Watson (Youghal).

The Hon. Secretary was directed to a report of the proceedings of the So to THE ARCHITECTS' JOURNAL, the Jou having kindly consented to act as the cial organ for the Society.

GEORGIAN HOUSE IN DUBLIN.



GEORGIAN HOUSE IN DUBLIN. LAY-OUT OF GARDEN.
R. M. BUTLER, F.R.I.B.A., P.R.I.A.I., ARCHITECT.

Societies and Institutio

South Wales Institute of Architec (Western Branch).

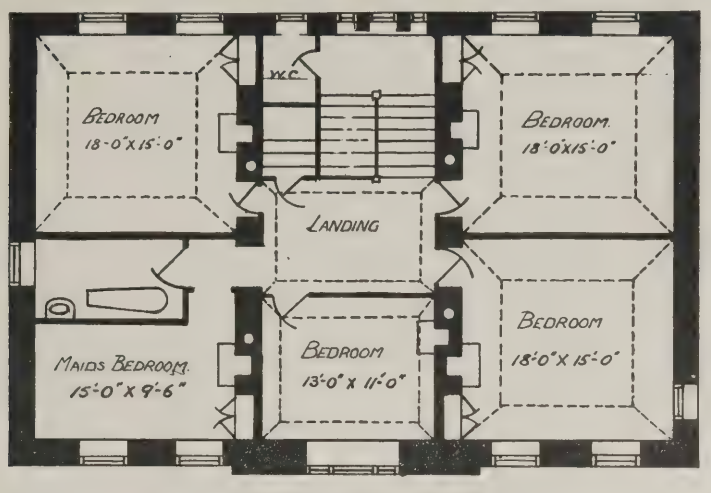
At a general meeting of the wes branch of the South Wales Institute Architects, held at Swansea, Mr. J. C Rees, M.S.A. (Neath), in the chair, following officers were elected for ensuing year: Chairman, Mr. Glen ning Moxham, F.R.I.B.A.; hon. se tary, Mr. J. Herbert Jones, M.S.A.; h treasurer and librarian, Mr. H. C. Po mouth, M.S.A.; committee, Messrs. C Thomas, M.S.A.; J. Cook Rees, M.S. Thos. Gibb, M.S.A.; O. S. Portsmo A.R.I.B.A.; and Percy J. Williams. following were elected to represent branch on the Council of the South W Institute of Architects: Messrs. Glen ning Moxham, F.R.I.B.A., Tho Gibb, M.S.A., and J. Herbert Jo M.S.A. Mr. G. L. Crocker was elec to represent the architects' assistants.

Bristol Society of Architects.

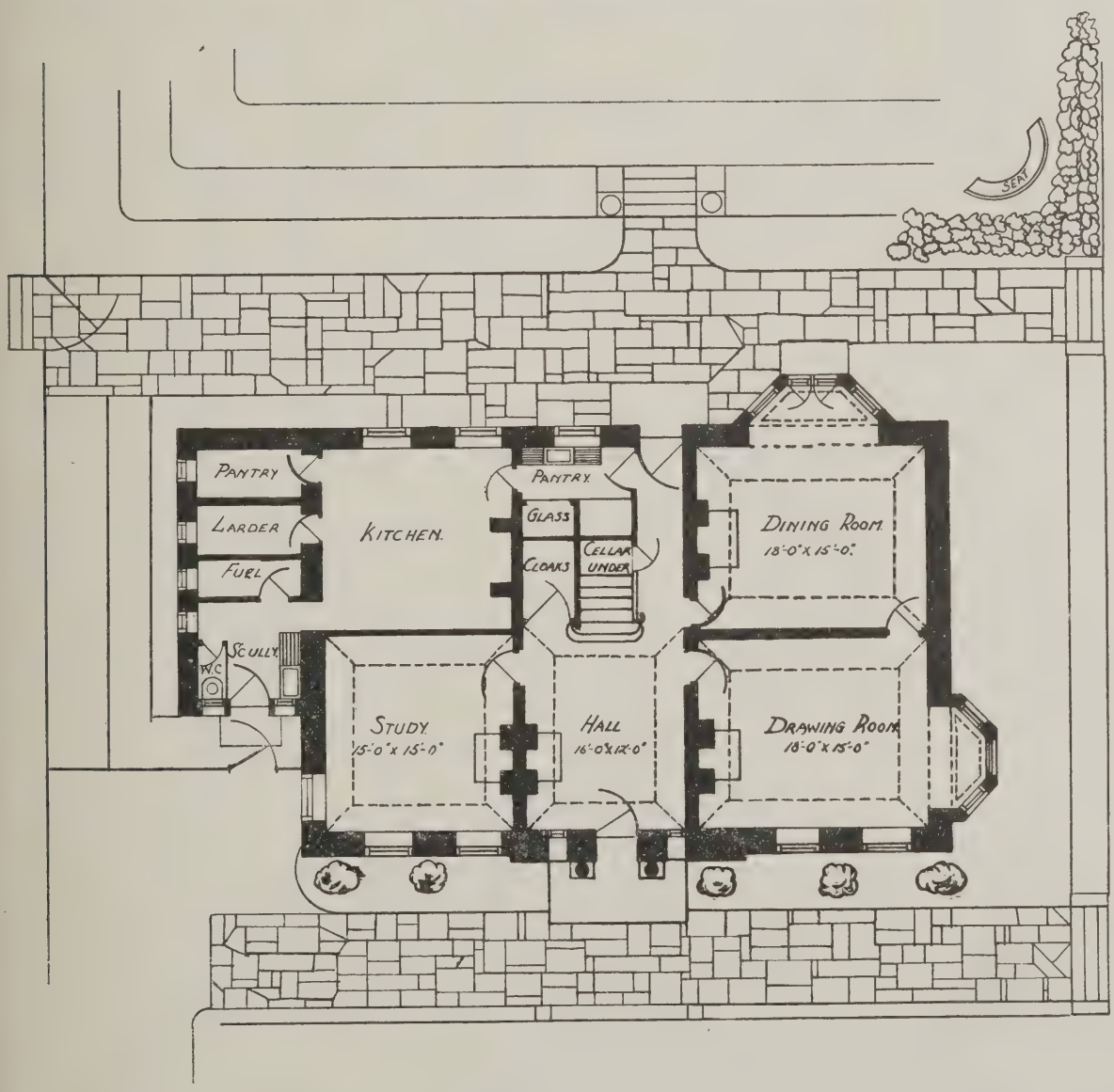
The annual general meeting has b held, when the reports of the honor secretary and honorary treasurer upon past session were dealt with, and gratify results both in respect of the members and the financial position of the soc were recorded. Much useful work wit the society has resulted in its rene activity, and the influx of a large num of student members gives promise of future strong position. During session negotiations in respect of a sch of architecture for the district have with unanimous support among the pr tising architects; definite plans with t end in view are afoot. The election officers and Council for the ensu session took place, Mr. G. C. Lawrer A.R.I.B.A., being elected President.

Modern Domestic Architecture. 6.—House in Dublin

R. M. Butler, F.R.I.B.A., P.R.A.I.A., Architect



First Floor Plan.



Ground Floor Plan.

These plans show the internal arrangements of the small house illustrated on page 568. It will be seen that the design of the house is reticent and charming.

Society of Architects' Conferences

HE third of the series of meetings organised by the Society of Architects, and held at the Building es Exhibition at Olympia, was essed by Mr. J. W. Beauchamp, ctor of the Electrical Development ciation. Mr. E. J. Sadgrove, I.B.A. (president), again occupied hair.

The All-Electric House

. Beauchamp said that there were ge number of houses which might be d "The All-Electric House." Mr. champ said that electricity might be for all lighting, cooking of food, ing of rooms, and the boiling of r. Houses equipped in this way ed, as an offset to the cost of elec- l appliances, savings in regard to , chimney breasts, and grates, whilst would give the architect greater free- in planning.

time went by one might expect that falling cost of electricity generation d still further increase its use for ing; people would become accus- ed to its convenience for cooking, and heating in some parts of their houses.

entral heating systems of large build- had been brought to great perfec- , and the problem of heating a street ouses was not essentially different or h more difficult. The electrical engi- 's interest in these systems lay in the ibility of using up much of the heat present lost in his generating station, the selling of it as a bye-product. It sometimes said as a reproach against tricity that only a moderate percent- of the heat contained in the coal used passed on to the consumer, but to that e were several replies. First, the sumer cared nothing for such argu- nts, and judged the value of the service n him by its convenience and all-in for a period of years. Second, where electricity was produced by water- er the argument did not apply. rd, the loss of heat complained of was e apparent than real, so far as the mate user was concerned, because n he received the electricity he could vert it into light, heat, and power, a minimum amount of loss. Having over the price and waste, nobody stioned whether they would like to use tricity in their house, for there was hing else to give them quite the same vice.

n considering the possibilities of ctricity for any purpose it was essential bear in mind that the art and practice e developing at an extremely rapid e. He was in touch with a large number ndertakings, and had noted with a cri- l eye electrical practice in many parts the country, and without doubt the st striking thing was the large differ- e between the average technical prac- and the best, and the great disparity ween the costs and facilities offered in ne places as against others. He men- ned the out-of-date fittings he saw in ne institutions, and said that he there- e felt very strongly that there was m for closer union between the archi- t and builder and the electrical engi- er. Concluding, Mr. Beauchamp hoped t architects would call upon his asso- tion for any information it could give. ose who followed the profession of electrical engineers depended for much of their success on the extent to which they pleased their clients.

Mr. McArthur Butler said that he thought it would be difficult in rural districts to get a supply of electricity, more especially in England than in other countries, where he believed they had overhead transmission. Against overhead transmission in this country, however, there was a great deal of prejudice, owing to alleged dangers and other reasons. But he did think there was enormous scope. Mr. Butler went on to refer to the bad arrangement of lights in shop windows, and said that he thought a great amount of electric light was wasted owing to its being improperly applied. Shopkeepers seemed to think it necessary to fill the window with electric bulbs, and often one could not see the goods in the window because of the glare. Here, he thought, there was a great deal the Electrical Development Association could do in the educating of users on the proper using of electricity.

Mr. Marlowe Reade agreed that with new methods of heating architects would have to devise a much better system of ventilation.

Mr. Beauchamp, in reply, referred to Mr. Butler's point about shop window lighting, and said that to-day illumination was a science, and his Association were doing what they could to show the difference between good and bad lighting. With reference to some uniform charge for electricity, he declared that he would like to see a general domestic tariff, something like that for the telephone.

The Chairman then moved a vote of thanks to Mr. Beauchamp, and Sir Charles Ruthen seconded.

General Building Problems

The fourth meeting was addressed by Mr. J. F. Lloyd, president of the National Federation of Building Trade Operatives, upon "General Building Problems." Sir Charles Ruthen, O.B.E., F.R.I.B.A., presided.

Mr. Lloyd said that the delay in building could not be made up in a few hours or even a few years. That the operatives recognised. And it must also be borne in mind that during the war they had lost a quarter of a million men. In London alone the number was 25,000 short of what it was before August, 1914, and the scarcity of houses could be accounted for greatly by that. With that shortage and the increased demand for accommodation which had arisen, they were faced with the problem that not only had they not enough men to meet these demands, but they had not enough to continue with the repairs and maintenance of existing houses.

He was of the opinion that there was a great deal of work which ought not to go on; and here arose the question as to what was luxury building and what was not. At the present moment he was not going to attempt to say. The boundary line was indefinable. They as the operatives would be quite willing to call their men off luxury work if they were assured that they would be put on to work which would be of utility to them. What they felt was that if they were to build houses for the working-class the working-class should have a say as to what those houses were to be like.

In conclusion, Mr. Lloyd severely criticised the houses now being erected for the working-classes, and said that the Government had never taken them into their confidence, although the operatives had been at all times ready to give assistance in any problem.

Mr. E. J. Sadgrove, F.R.I.B.A. (president), said that luxury building must go on if they were to live. If it were stopped, not only would the architect be shut out, but many other classes of workers would also be idle. He proposed a hearty vote of thanks to Mr. Lloyd, and hoped that the result of the meeting would be some better understanding of the building trade operatives.

Mr. Marlowe Reade said that five years more of the munition spirit would relieve the whole situation, and it seemed to him that only on those lines could they overcome the problem. About luxury buildings he was not concerned, because it was not 2 per cent. of the whole.

Sir Charles Ruthen said that there was one point Mr. Lloyd had not touched upon, and that was the loss to building owing to the reduction of hours of labour.

Mr. J. Murrey, Secretary of the Federation, said that nothing had more degraded the building trade in the past than the piece-work system. He held the view that if you wanted to get the best out of a man you had to instil a new spirit into him. Let the man have a managing control in the work. Let him have an incentive. One of the real reasons why men had gone out of the industry had been its casual nature in the past. Another factor in the depletion of their ranks was the scarcity of apprentices, owing to parents not caring to have their children brought up to such a trade. They were trying to resuscitate the apprenticeship system. What did they find? There was a difficulty of getting boys to come because nothing definite could be promised save the hope that they were to have something better than their fathers had had in the past. Concluding, he again emphasised his point that if you wanted to get the best out of the workman you had to give him a sense of craftsmanship and direct control.

Sir Charles Ruthen thought that some good would result from such a meeting. Whatever might be the intention of those in authority, there seemed to be some misunderstanding, but he thought it could be cleared away by a frank and reasonable conference. When Mr. Sadgrove referred to luxury building he was sure that what was at the back of his mind was that a large number of skilled craftsmen would be thrown out of work who would find no place in the building of houses.

Mr. Lloyd, in responding to a vote of thanks, which was unanimously accorded to him, said that up to now the operatives had made no effort to decide what was a luxury building. With regard to the housing problem, there was so much nonsense talked about it that it was just as well to remind the public that it was not a new problem. It had always been a problem. The working-classes had always been under-housed. He had been agitating for thirty years about the problem in London, and now it had assumed formidable proportions because of the sudden stoppage. The operatives in London had under serious consideration the establishment of guilds.

The Luncheon

A highly successful and well-attended lunch was given by the Society of Architects on Friday last in the Pillar Hall, Olympia. Mr. Edwin James Sadgrove, F.R.I.B.A., President of the Society, was in the chair, and among the guests were Sir Alfred Mond, M.P. (First Commissioner of Works), Sir Kingsley Wood, M.P. (Parliamentary Private Secretary to the Ministry of Health), Colonel Sir Henry G. Norris, M.P., and Lady Norris, Sir G. Woodhead, Sir Ambrose Poynter, F.R.I.B.A., Sir Charles Ruthen, O.B.E., F.R.I.B.A., and Lady Ruthen, Major Barnes, M.P., F.R.I.B.A., Messrs. A. Burnett Brown, F.S.I. (vice-president), G. McArthur Butler, F.S.I. (secretary), A. H. Scott (past vice-president), E. C. P. Monson, F.R.I.B.A. (past-president), A. Keen, F.R.I.B.A. (hon. sec. R.I.B.A.), Percy B. Tubbs, F.R.I.B.A. (past-president), Ian MacAlister, B.A. (secretary R.I.B.A.), Alex. Goddard, O.B.E. (secretary Surveyors' Institute), I. G. Gibbons E. L. C. Mosse (Ministry of Health), and J. Walker-Smith (Deputy Director of National Housing), Mrs. H. Greville Montgomery, and Messrs. J. P. Lloyd and J. Murrey (Federation of Building Trade Operatives).

The Chairman, proposing the toast of "Our Guests," said that there was a necessity for such displays as they had at the Exhibition in order that the producer could come into contact with the purchaser. Thanks were due from them all to Mr. Greville Montgomery, whose organisation of the Exhibition had been admirable. Builders and operatives had held several conferences under the auspices of the Society, and these conferences had done much good in smoothing difficulties and in establishing harmony between all the branches of the building trade. He would make an appeal on behalf of the disabled soldiers, who could, as shown at the Exhibition, be trained in six months to become bricklayers. He then read a letter from Colonel Trollope, who made an appeal on behalf of the Officers' Association, adding that the Colonel would be glad to hear from those who wished to respond to this invitation. He referred to the visit that morning of Prince Albert to the Society's Club at the Exhibition. "Luxury" building was to be stopped in order that workmen might have dwellings first, and, from the Government point of view, cinemas, clubs, and theatres were all "luxury" buildings. It would be a great mistake if the Government attempted to lay down that every class of building other than that of housing was a "luxury," and it would inflict a further injury on architects, who had already suffered so much in the war.

Sir Kingsley Wood, M.P., said that there were three million people who were badly in need of housing accommodation, and it was obvious that houses must come first. The Ministry, however, intended that, subject to that reservation, no legitimate and proper undertaking in connection with factories and commercial enterprise should be unduly interfered with. It devolved on the local authority to have regard to the needs of the particular locality, and then to decide whether or not particular buildings should be proceeded with. They hoped that by using common sense and sympathetic consideration they would get a satisfactory solution. The Ministry had grave anxiety in regard to finance and labour. It was a matter of great regret to the Minister that the recent issue of housing bonds in certain localities had met with so little success. He hoped that the conference now taking place to augment the labour in the building trade might be successful. There was a large number of ex-Service men still out of employment, and under the Ministry of Labour's scheme it had been found practicable to train a man to become a bricklayer within six months. There was no danger of unemployment in the industry for years to come.

Colonel Sir Henry Norris, M.P., said that unless the Government found means to prevent the housing bonds from deteriorating within a few months, as war stock had done, they would find investors chary of them.

Mr. I. G. Gibbons thought that architects had been slow in adopting new methods of construction, and in making suggestions in regard to housing. The last returns showed that 800,000 houses were needed, and if even a small part of that total was to be achieved there must be co-operation among all sections of the industry.

Sir Alfred Mond, M.P., proposing "The Society," said that the architect was too often looked on as superfluous, and was employed by people with more taste than sense. It was no dearer to build a beautiful house than an ugly one. The hideousness of many existing houses induced depression among the industrial classes, and was a factor in unrest.

The Chairman said: I understand from Mr. Alban Scott, chairman of the Construction Committee of the Ministry of Health, that the Department of Scientific and Industrial Research have agreed to form a building research board, and this will be shortly an accomplished fact. Both the Society of Architects and Mr. Alban Scott have advocated this for the last two years. The building industry has been hampered by restrictive by-laws, and we want them more elastic, but always on the side of safety.

Correspondence

Registration of Architects

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I agree with Mr. Lionel Budden's suggestion that the precedent of the General Medical Council might be suitably followed by the architectural profession. I have long thought that such a method of effecting registration for architects would be most likely to secure general agreement and avoid the opposition and controversy which other lines of procedure might raise.

Within certain limits a man's freedom to select his own professional qualifying standard is entitled to consideration and respect. Just as a medical man may prefer to practice with the degree of Doctor or Bachelor of a University, or as a Fellow or Licentiate of a medical or surgical college, as personal taste may lead him, so an architect might reasonably and properly claim the right to choose between a University degree in architecture, Membership of the Institute, of the Society of Architects, of the Architectural Association, and so on, or the certificate (of, I imagine, a relatively low standard at first) granted, say, by what might be called a General Registration Board or Council on wh the various architectural bodies or autl rities would be represented, which Boa besides conducting such an examinatic would, in other ways, act as representi the profession as a whole. It would, imagine, naturally follow that the Ro Institute had chief representation on t General Council and that the preside acted as its chairman.

Such a system would, at least, have t merit of preserving the idea of a hi standard in architecture, for which t Institute, with varying degrees of succe has long stood, an aim highly valued its members, which probably constitut their principal inducement to join its ran and which now gives them reason to cla that it shall continue to be safeguard Such a contention, moreover, has spec force at a time when quality in archit ture shows signs of coming into its o again, and the influence of our most exc lent schools—now become a definite fo in the land—is showing itself in the cl racter of our architecture. Any loweri of ideals would be deplorable, and a te dency in the direction of uniformity qualification would surely have that effe

As a member of a former Registrati Committee of the Institute, I am w aware of the difficulties which beset t question, and for that reason I hope t admirable procedure now being adopt for dealing with it will result in a sche that will be comprehensive and effect without being unjust to any class affect by its operations. THE ARCHITEC JOURNAL is continually placing the prof sion under an obligation to it, and ne more so than by its broad and libe treatment of this very difficult questi which should earn it the thanks of concerned. FREDK. R. HIORNS.

SIRS,—I think that all architects shou be greatly indebted to THE ARCHITEC JOURNAL for the vigorous support it giving the profession on the question Registration. All "whole hoggers" ou to unite to see the matter through. differences should be put aside and th should be no squabbling over the me of F.R.I.B.A., M.S.A., etc., etc. T greatest profession there is should h great minds. Fight for Unity and Reg tration.

The Royal Institute did a great thi in calling attention to unemploym owing to the stopping of so-cal "luxury" buildings. Propaganda is quired; it is a vulgar thing, but nevert less necessary. The lay mind does differentiate between architects a builders.

Hammer at the doors—they will ope but use a large hammer, it will take l time. JOHN SARVIS.

Coming Events

WEDNESDAY, APRIL 28.

Royal Society of Arts, John Stre Adelphi, London, W.C.2. — Ordina meeting. "Ancient Stained Glass." Brigadier-General Charles H. Sher LL.D., U.S. Army. The Right H Lord Desborough, K.C.V.O., will p side. 4.30 p.m.

TUESDAY, MAY 18.

R.I.B.A., 9, Conduit Street, London Meeting of Licentiates to elect sev representatives to serve on the Unificati and Registration Committee. Mr. Jo W. Simpson, P.R.I.B.A., will occupy t chair. 4.30 p.m.

The Week's News

(Continued from page 552)

London Housing Scheme.

.M. Office of Works is arranging to y out some of the London housing mes.

Langholm: Housing Architect Appointed.

r. J. B. Gladstone, Lockerbie, has ı appointed architect of the housing me at Langholm.

Houses on Workhouse Site.

he Bermondsey Housing Committee ›ose to demolish Tanner Street Work-se and to erect houses on the site.

Rowley Regis Parish Church.

ıe ancient Parish Church of Rowley 'is, Staffordshire, which was destroyed ire in 1913, is being rebuilt.

:oration of Hanging Heaton Church.

he restoration of Hanging Heaton rch, Yorkshire, is about to be carried from the plans of Mr. W. D. Caröe, ıitect.

Guards' Memorial.

everal sites have been proposed for the ırds' Memorial, but the one that finds ıtest favour at the present time is that :ctly facing Wellington Barracks.

Greenock War Memorial.

3,500 has been subscribed towards the enock War Memorial, which is to be :ted in Wellpark. The sum aimed at is ,000.

Victoria and Albert Museum.

ı the East Hall of the Victoria and ert Museum an exhibition has been ınged of the additions made to the collections during the last year or two. Many of the additions were received at a time when no grant was available for the purchase of works of art for the museum, and some were given in memory of the fallen.

Institute as War Memorial.

An Institute is to be built at Sanquhar from plans prepared by Mr. William Scott, architect. It is designed as a war memorial, and a considerable sum of money has already been subscribed.

Southwark Industrial Council.

A local branch of the Industrial League and Council has been formed at Southwark. Representatives of employers and labour are giving their whole-hearted support to the movement.

Dr. Addison on Housing.

Speaking at the opening of the Grimsby Housing Bonds campaign, Dr. Addison, Minister of Health, said the task before them was enough, especially just now, to appal the most sanguine and the most stout-hearted. But the difficulties would be overcome, although it was a prodigious task when they found a shortage of half a million houses.

Tonbridge to Try Direct Labour.

The U.D.C. have decided to carry out their housing scheme by direct labour. The Building Trades Union are supporting the scheme, a guarantee being given by the Council of constant employment for at least three years, with full trade union pay. The houses are urgently needed, as Tonbridge hopes to become a centre for the motor industry. The erection of works to employ 3,000 hands has been retarded owing to the lack of housing facilities and men.

St. Pancras Building Scheme.

St. Pancras Borough Council have refused to purchase Mornington Crescent, Camden Town, and it is expected that this open space, two and a half acres in extent, will be built over. A building scheme is to be proceeded with immediately. The houses surrounding the crescent are to be rebuilt, and the present open space is to be devoted to commercial buildings.

Rents of Housing Schemes.

Dr. Addison, Minister of Health, has stated in the House of Commons that the rents being charged by local authorities for new houses erected by them varied according to the locality and the size of the house. The rents ranged from 7s. a week, exclusive of rates, in rural areas, to 17s. 6d. a week, exclusive of rates, in the neighbourhood of London. In no case did the rent represent an economic return on the capital cost.

Housing Department Appointment.

The Minister of Health has appointed Mr. Stephen Easten to act as Director of Production in the Housing Department of the Ministry. Mr. Easten will advise and assist the Ministry upon questions relating to the supply of labour and materials, and upon other matters de-

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signed to facilitate the erection of houses for which contracts have already been approved. Mr. Easten is Chairman of the National Federation of Building Trades Employers and of the North Centre Conciliation Board, and is a member of the Newcastle Corporation.

Kildonan Mansion House.

The new mansion house at Kildonan, in Ayrshire, is nearing completion. Work was begun in 1915, when the old house was demolished. Plans are by Mr. James Miller, A.R.S.A., F.R.I.B.A., Glasgow.

Cenotaph for Bermondsey.

The Mayor of Bermondsey has unveiled a cenotaph to the memory of Bermondsey and Rotherhithe men who fell in the war. The monument, the gift of Mr. Howell J. Williams and Mr. C. Oscar Gridley, stands on Millpond Bridge, Jamaica Road, which is practically about the centre of the Borough of Bermondsey. It is not intended to be the permanent memorial to the heroic dead, a children's hospital having been decided upon for that purpose.

New Factory for Newark.

Arrangements have been completed for the erection of the beet sugar factory on the Kelham Estate, Newark. The contract for the plant and machinery has been placed with the Compagnie de Fives Lille, of Lille and Givore. Certain parts of the plant will be manufactured by British engineering firms on behalf of this company. The factory buildings, wharf, railway sidings, silos, etc., will be according to plans and expert lay-out of the site prepared by the Compagnie de Fives Lille, and erected by Walter Scott and Middleton, Ltd., building and railway contractors, under the supervision of Messrs. Hal Williams and Co., who have been appointed consulting engineers for the constructional work.

Institution of Civil Engineers.

Three members and fifteen Associate members were elected, one Associate member was transferred to member, and twenty-seven students were admitted at the last meeting of the Institution of Civil Engineers.

Druidical Relic in Mid-Wales.

Mitchell's Fold, a Druidical stone circle on Stapeley Hill, on the Montgomeryshire-Shropshire border, has, through the influence of Sir Offley Wakeham, Bart., been handed over to the Office of Works for preservation as an ancient monument. The circle, which measures 92 ft. from north to south and 86 ft. from east to west, is one of the best examples of this kind of prehistoric relic along the Welsh Border, the principal stones in the circle standing about 6 ft. high.

Relics of Old Lewes.

A massive old iron cauldron has been found in the old Priory grounds at Lewes. The cauldron, which is in a good state of preservation, is said to be a specimen of real Sussex iron work, an industry which flourished in the county centuries ago. The Priory of St. Pancras, Lewes, founded by Earl Warenne in 1072, covered an area of thirty-three acres. The monks came from Cluny, and the monastery was the largest in England of the Cluniac Order. The roof of the church alone was supported by thirty-three massive pillars. The building was destroyed during the Cromwellian period.

Trade and Craft

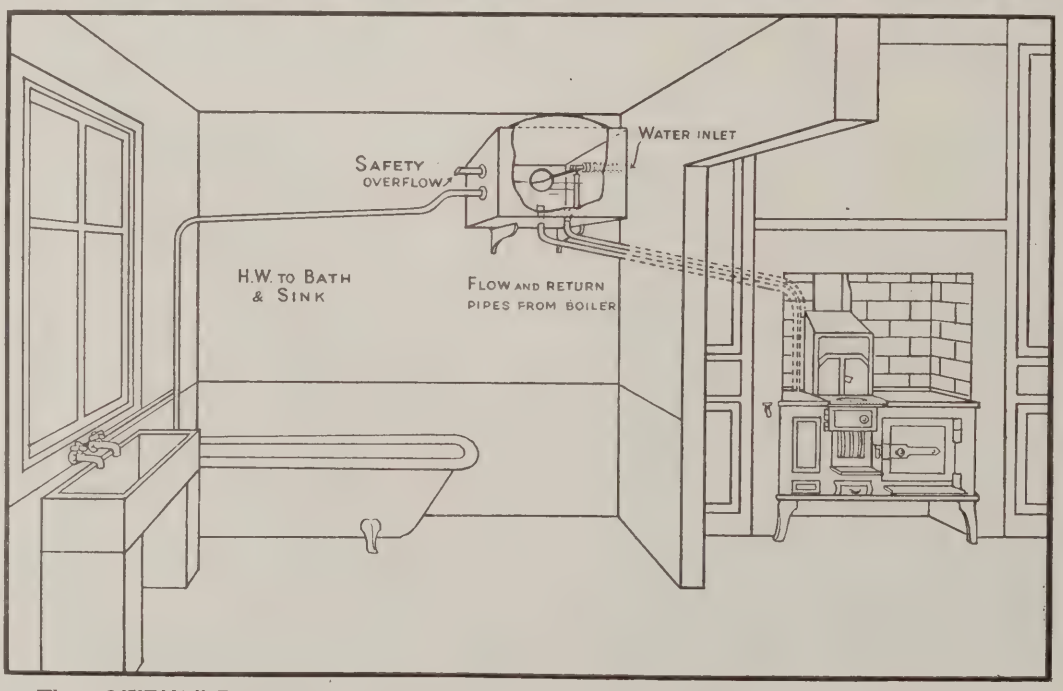
Change of Address.

Messrs. Fredk. E. Potter, Ltd., ad tising agents and publicity experts, l moved to Imperial House, Kingsw London, W.C.2, to which all commun tions should be directed. New telepl numbers: Regent 3266 (4 lines). telegraphic address: "Exultation, W cent, London."

"Winget" Concrete Block Construct

An illustrated booklet, called " Solution of the Housing Proble issued by Messrs. Winget, Ltd., of Grosvenor Gardens, London, S.W.1, g a great deal of interesting information regard to the company's system of conc blocks and slabs, which has the appr of the Ministry of Health and the Scot Board of Health. Reference is made to large number of housing schemes car out by the "Winget" process in diffe parts of the country and to the trib paid to the system by Sir Eric Geddes, K.C.B., C.B.E., M.P., and General A. Sydney Collard, C.B., C.V R.E., as Director of Inland Waterways Docks. Illustrations are given of a fo stalled hangar, each of 45-ft. span, erec in three weeks, of an Admiralty hospita Chepstow, built on the continuous ca system, and of a number of farm buildi houses, and cottages erected to the desi of well-known architects. The system fully explained, and particulars are gi of the various concrete block-mak machines of the company, several type which were shown in operation at the cent Building Trades Exhibition, wh they were a centre of constant attentio

HOUSING SCHEMES



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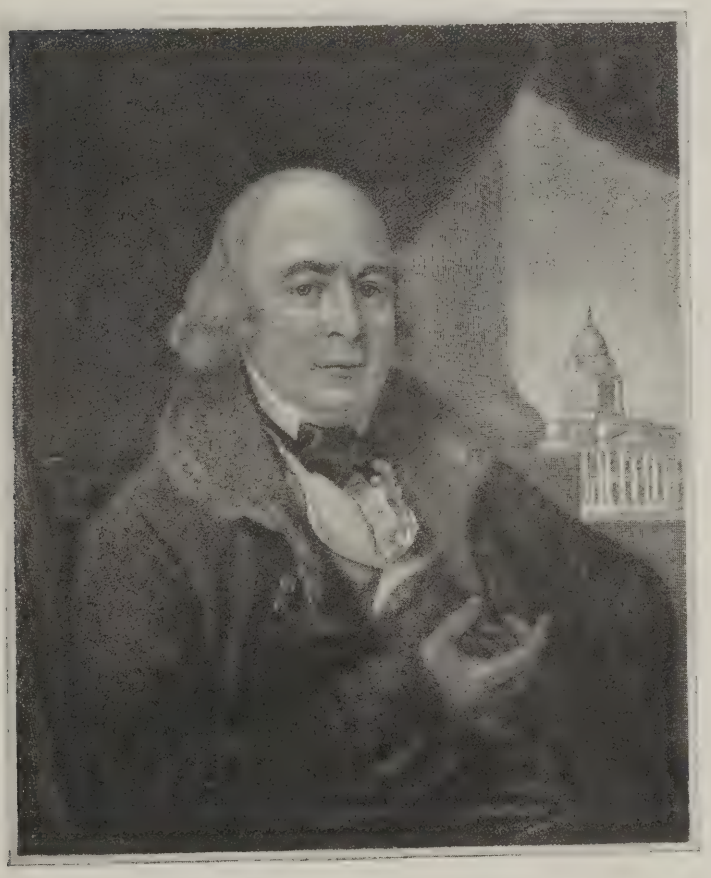

JAMES GANDON, M.R.I.A., F.R.S.

"The most distinguished architect that Ireland has ever had employed in her service." Born in New Bond Street, London, on February 29, 1742 (O.S.), at the house of his grandfather, who was a Huguenot refugee, he was, after studying at Shipley's Drawing Academy, indentured to William Chambers shortly after Chambers returned from Italy. In 1781 Gandon made his first visit to Ireland, and the first stone of his famous Custom House was laid in 1781. His other important works in Dublin were the Four Courts, the Law Courts or "King's Inns," and additions to the Parliament House. He died in the eighty-second year of his age.

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Early Nineteenth Century Architecture. 7.—The Royal George Hotel, Rugby

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

nesday, May 5, 1920 Volume LI. No. 1322

"Luxury Building Can Wait"

DURING the war, rather strict State control of the national resources in men and materials was accepted by all sane persons as a grim necessity of the situation. It was a despe- expedient to meet abnormal needs. But so ng was the yoke, and so acute the distress, when at length the long and cruel war was to be nearing its end, organised architects passed olution demanding that total release from State ol should synchronise with the cessation of hostili- This action, it may be remembered, we deprecated e time. We thought it premature.

t our opposition to the sudden release which would meant swift confusion, was not intended as oval of sempiternal bureaucracy. And the time for ation is now long past. There is now no shadow cuse for protracting the agony. The great need housing is, of course, the pretext for continuing etty tyranny of prohibition that is paralysing not the building industry, but all the manufacturing commercial interests that are dependent on it. lentally, it imposes on the architect further fices that are the more galling for their itousness. This, however, is a mere side . The President of the Institute, in a fur- letter to "The Times," has had to remind Addison that the hard case of the architects not mentioned in the President's former letter. t says the proverb?—"A guilty conscience needs accuser." Mr. Simpson's disclaimer, in "The s" of April 30, is worth quoting: "I said nothing t architects, nor would my profession thank me for g their private troubles in the Press, still less for ding upon them any attack on the efforts of the stry to provide houses for the people." It will be that we have been less reticent with respect to the s of the architect; because we feel that he has a to protest against being deprived by the State of pportunity of earning his living by the exercise of alling for which he was expensively trained. We deliberately and emphatically that in time of peace State has no moral right to interfere with the itect's business, nor with any other legitimate busi- whatsoever.

t there is no need for any special pleading on lf of the architect. The greater evil includes the r; and the architect is simply involved in what egard as a calamity to the community at —the arbitrary and capricious restriction of build- It is only "luxury building" that is prohibited. what is luxury building? There is no certainty on oint, even though the Ministry of Health has felt trained to give some sort of a lead to the local orities to whom it has rather meanly transferred the of decision. A classification of various types of dings as being of relatively high, low, and inter- iate importance, leaves us in serious doubt whether ories and mills, large stores and warehouses, which laced in the "intermediate" division, are regarded luxury buildings" If they are, the outlook for manufacture and commerce in this country is appalling. For Dr. Addison has declared his intention of stopping all luxury building as far as possible. "What he wanted to see," he is reported as saying at Southgate, "was the labour available used in building houses. He did not want to stop any building or any enterprise, but he did not want to see any luxury building while houses were waiting for men to build them. He intended to pursue that policy in spite of criticism." It is not wise to proceed in spite of criticism: from real criticism there is much to be learned; but by "criticism" he evidently means blame; and he confesses that not only is he impenitent, but that he is actually yearning for further powers to enforce prohibition.

We submit that he has taken the wrong turning. Like the President of the Institute, we have a very great respect, almost an affectionate regard, for Dr. Addison. We admire his zeal, his energy, his courage, his good-heartedness, his unfailing courtesy, his rich fund of good-humour. But is he not a little too quick to take criticism of policy as an attack on personal grounds? Let him rest assured that his many fine qualities are as much appreciated by architects as they are by the general community. There is, personally, no more popular Minister in the Government. But neither this personal esteem, nor one's natural sympathy for a good man struggling against adversity, shall stifle our deliberately formed opinion that the petty tyranny he has set up in prohibiting "luxury building" is as unwise as it is unjust. Reflection must convince him, as the President's protest should have convinced him, of the futility of attempting to concentrate all the available forces on housing. The proposal ignores completely the great complexity of the building industry, and the diversity of the operations involved in it. To dismiss as "rubbish" the President's fear of unemployment among skilled workers in the building trades was to exhibit the petulance of one angry at defeat in argument. Dr. Addison must surely see quite clearly that the President's apprehension of unemployment was a legitimate deduction from the premises. To stop general building is to put out of action all the most highly skilled craftsmen, steel frame men and other metal workers, staircase joiners, hot-water-work engineers, electricians, decorators—can their special training and highly perfected skill be profitably employed on a simple matter of cottage building? The notion is absurd in the extreme, and we are surprised Dr. Addison should lend it countenance.

He has, we well know, to deal with a most difficult and most complex problem. But our sympathetic appreciation of this, our recognition of his goodwill to all men—especially, as he has rather unnecessarily reminded us, to architects—our desire to give him, as we have always given him, the utmost support in his difficult task—nothing of all this shall interfere with our plain duty of telling him faithfully and frankly that his ban on so-called "luxury building" is a tactical blunder of the first magnitude. It chains the wheels of national progress.

J. F. McR.

Notes and Comments

The Royal Academy Exhibition

The one hundred and fifty-second exhibition of the Royal Academy of Arts, which opened on Monday last, and will close on August 7, does not reach any great altitude of architectural interest. There is hardly any architectural sculpture, and the architectural drawing are not above the average, even if they actually reach it. Sculpture galleries and architectural room alike declare that there is "something rotten in the State." What is it? What but the blight of State control? Until the fatuous embargo on alleged "luxury buildings" is completely and unreservedly removed, there will be a dearth of the sort of buildings that good architects design and eminent sculptors decorate with graven images. We are not of those who habitually blame the Government for every mischance; but here we feel justified in accusing the State of being directly responsible for the present dearth.

Architect Academicians and Associates

In referring last week to the absurdly inadequate recognition of Mr. Ernest Newton's splendid services to the State and to architecture, we inadvertently underrated his standing in the Royal Academy. We referred to him as an Associate. He is, of course, R.A. The architect R.A.'s are now six in number—namely, Sir Aston Webb, the President; Sir Ernest George and Sir Thomas Graham Jackson, who are Senior Academicians; Sir Reginald Blomfield, Mr. Ernest Newton, and Sir Edwin Lutyens. The architect Associates are but two—Mr. G. Gilbert Scott and Sir Robert Lorimer. So that the architects have gone one better than the quaint saying, "We are seven." They make a very harmonious and dulcet octave.

Institute Memorial Competition

It has been decided by the Council of the Royal Institute to hold a competition for the design of a memorial tablet to bear the names of those members, Licentiates, and students "who laid down their lives in the service of the Empire during the Great War." The wording of the phrase we have placed within quotation marks shows a just and tender thought for those who, though not killed or fatally wounded in actual and direct fighting, died nevertheless from the effects of the war. We are not quite sure, however, that it is wise to restrict the competition to those sons of the Institute who served in the forces during the war; for obviously the chances of getting the best design increase with the widening of the field of competition. The conditions of the competition appear on page 600.

R.I.B.A. Council Elections

The ballot papers for the R.I.B.A. Council elections will be sent out as soon as possible after the annual general meeting on May 3. In view of the very great importance of the work that will have to be done by the Council elected next month, we most earnestly urge members to vote to the last man—or woman, if there are ladies empowered to exercise the privilege. A council which is elected by a really large vote can claim to be truly representative of the Royal Institute, and is morally in a much stronger position to cope with the vitally important subjects that will have to be dealt with in the course of the next twelve months. If the electors are half-hearted and slack, the elected will lack the confidence and courage inspired by the knowledge that they had the support of an overwhelming majority of the members. Remembering that the Council will not have simply to deal with matters of internal interest, but must be placed in a position "to speak with the enemy in the gate," it is the plain duty of eve member to help to strengthen the hands of his coun in the great struggle that is before it. Those w deliberately abstain from voting will incur a hea responsibility. We hope, therefore, to see the high poll ever recorded. It is not much to ask; but vi consequences depend on the response

Daylight Cinemas

Screen pictures can be shown in broad daylight. T fact was demonstrated quite satisfactorily at a tr exhibition given recently at Drury Lane Theatre, a architects who are specially interested in cinema desi must needs revise their views on it. For the "dayligh cinema can be well ventilated, its interior decoratio will be continuously illuminated, and the pictures can projected on to the screen at short range from the ba of the theatre, where no more than 4 ft. of space is nec sary. In the opinion of certain specialist writers cinema topics the daylight screen is likely to have o limited applications: and the cautious architect w keep alert to impending developments.

Stained Glass Revival

The Right Hon. Lord Desborough, presiding at meeting of the Royal Society of Arts on April 2 remarked on the widespread ignorance in this count on the subject of stained glass, and mentioned his o responsibility for the retention of the glass at Ockwe House. In the discussion which followed a paper "Mediæval Glass," which was read by Brigadi General Sherrill, of the United States Army, Mr. N Heaton also referred to the ignorance of good glass prevalent in England, and he deplored the carelessne displayed by many persons entrusted with its preser tion; while Mr. Maurice Drake invited the co-operati of the Royal Society of Arts with the British Socie of Master Glasspainters (whose formation we record last week) in increasing the general knowledge a improving the status of the art of glasspainting, a in assisting to keep and preserve in this cou try its heritage of ancient glass. Mr. Dra enforced his observations with the disquieting stateme that a panel required to complete the fine 13th centu window in South Kensington Museum was in immine danger of being purchased for the United States. Co sidering the intimate association of painted glass wi architecture, we are delighted to see the present gre revival of interest in the ancient and fascinating art glasspainting, and, as our readers are aware, we a assisting a movement so rich in architectural intere General Sherrill, whose paper at the Society of A meeting was illustrated by an excellent series coloured photographs by Messrs. Maurice Drake a Noël Heaton, traced the development of the art fr the earliest examples at Le Mans, Chartres and Denis, and referred to the great increase of gla painting in England subsequent to the middle of t fourteenth century until its decadence in the seve teenth. In the twentieth, we trust, the art is to see a gre revival—great in quality as in quantity.

Housing Bonds

We greatly regret that the Prime Minister was p vented by ill-health from opening, at the Mansion Hou last Monday, the Local Housing Bonds campaign. wishing him a speedy restoration to strength, we wou beg him to bring to the campaign, when he is able take an active share in it, the stimulating assurance th the ban on so-called luxury building has been entire removed. Otherwise even his wizardry will fail to ra the funds.

The Value of Tradition

By HAROLD DONALDSON EBERLEIN

HE value of tradition to the architect depends wholly upon himself. Tradition may be a tyrant; a deadening, dwarfing shibboleth of pedantic purism; a quack's sugar pill fondly ked up to ensure architectural salvation; a specious, -deluding excuse and anodyne to gloss over the y fact of mental ossification; a cloak of respect- ity to hide creative ineptitude and, withal, the pain- industry and meagre merit of archæological patch- k. On the other hand, tradition may be, and ought e, a trusted friend and invaluable servant; an ever h and plenteous well-spring of legitimate inspira- ; a staff to lean upon; a sure safeguard and a rich kground and foil for the individual architect's ntion.

scape from tradition he cannot—whether he follow lindly and servilely, as the manner of some is, who d it a meet interpretation of tradition to be so straitly iculous of minutial precedent that, for them, tradi- becomes a mere stultifying fetish almost savouring arid theological rancours; whether he use it wisely l with broad understanding; or whether, finally, he n consciously reject it and spurn it and, by his very of emphatic rejection and denial, both attest the ver of an influence to which he is antagonistic and lare his self-willed trust in his own puny and fan- ic superiority to the collective wisdom of ages past. w it as he will, there tradition is, a force to be koned with and not avoided, a force potent for good ll according to his attitude towards it.

t will perhaps help to clarify the subject under dis- sion if, before going further, the nature of tradition defined. All tradition is a growth; the etymology the word itself implies a certain inevitable increase transmission. It results from the processes of (1) *lution*, (2) *fusion*, or (3) *deliberate grafting*.

To exemplify the first, we may point to the genesis Gothic tradition in England. With its roots in Nor- n antecedents, the Gothic style by gradual, and at es almost imperceptible, changes waxed little by le until it became an wholly distinct and clearly ined form in its "Early English" expression. By same gradual process the style incorporated and imilated new elements, and thus was born the ecorated" type. In the same manner the "Deco- ed" phase merged into the "Perpendicular."

The process was slow and orderly through centuries. little and little, and seemingly almost by chance, eared features that were destined to leave a pro- nd impress and be later rated for their true signifi- ce. There were endless overlappings and variations, h in point of time and place, as there needs must be any such course of organic growth. Naturalists tell that no two leaves of a tree are ever identically the ne, and we know the use to which the diversities of mb prints have been put. And yet from it all, from of what might have seemed incoherence had anyone empted to analyse it during any particular period of wth, there came a distinct style, a distinct national dition not to be confounded with any other national de of Gothic expression, homogeneous and consistent respect of the major characteristics and principles t stamped it, while it was also catholic enough to nprehend three separate successive sub-phases and a de range of purely local variations.

Usage created a common language of style, a com- n habit of growth; and style—using that term in a crete sense to designate the aggregate of associated d generally accepted usages peculiar to a given iod—gave rise to tradition; and tradition, the itera- e confirmation of style in its dominant essentials, resented the collective experience of generations of builders and was, in fact, a crystallised canon of architectural procedure, fixed in major matters, flexible in minor. To borrow a metaphor from medical parlance, style was *epidemic* in its persistent spread and all-pervasive action; tradition was style become *endemic* and stabilised. Tradition was the ultimate fruit of style, the gist of style.

As an instance of the formation of tradition by fusion, one might point to the Byzantine mode, the two chief underlying essentials of which are the Roman arch and the Oriental dome, with an attendant enrichment of detail more or less heterogeneous in provenance.

If one seeks instances of the genesis of tradition by grafting, there were the beginnings of the Renaissance tradition in France, where, at first, Renaissance elements were consciously attached to a Gothic base, and where, only after repeated transplantings and graftings from Italian stock, did the new order at last overtop the Gothic tradition.

Again, to see the growth of tradition by grafting, we have only to follow the vicissitudes that attended the rooting and grounding of the Classic tradition in England all the way from Torrigiano, Shute, Inigo Jones, and Wren to the Adelphi, Holland, and Nash.

Now, the very fact of growth—whether it be by orderly and virtually self-contained evolution, or by the fusion of two equally potent strains, or by the premeditated grafting of new shoots upon an already existent kindred stock—connotes life and energising force. If, then, tradition be not a dead thing to be labelled and shelved in a museum, but quick in very truth, and, like any healthy organism, instinct with new impulses of expression, as a tree bourgeons in the spring, it is indeed susceptible of the marvel of re-creation, of training, of fashioning, so long as such a course be not contrary to nature. The contriving of abortions, on the other hand, will blight or wholly kill it.

Great architects have ever been sensible of this lively quality of tradition and have cherished it, cultivated it, propagated it by grafts of both stock and branch, moulded it and fashioned it, and had a delight therein. And they have had their exceeding great reward: in their fashioning and in the impress they left besides the delight of it all, they created for themselves monuments more lasting than brass. Possessed of the blessed grace of common sense, the really great men have always found full and plenty to do without running counter to nature or essaying to distort and pervert.

To say that tradition stifles originality is sheer nonsense and a confession of lamentable ignorance of history. Originality might be defined as the felicitous union of tradition, clear-cut perception, and the point of view of the intelligent architect in solving consistently the particular problem confronting him. Tradition and a disciplined sense of invention together will produce greater originality than mere wastrel invention running riot. The truest originality has always proceeded from a thorough acquaintance with and respect for tradition, and, along with such acquaintance and respect, a sane adaptation of tradition to meet the obvious needs of the moment, and those who have been most original in their work were those most steeped in tradition. This is almost an historical truism, and it were idle to buttress the statement with a lengthy catalogue of great names. History is an open page for the reader to peruse for himself. No sane chemist would dare to compound elements of whose nature he was totally ignorant, and why should an architect be more rash? The chemist, knowing his elements, can essay marvellous compounds; so likewise the architect steeped in tradition can work with a surer hand and more fruitful mind. No really

great architect has ever found tradition a straitjacket shackling his liberty of action and cramping his individuality of invention. Rather has it proved a stimulus and a fillip to his imagination. To descend, as untrained and intellectually lazy men are often wont to do, to mere gaucherie and a laboured striving to do something the like of which has never been done before is to cheapen the conception of originality and to deny its subtle quality. It is charlatanism, not originality, and an insult to all beholders. Abortion, thank God, has not in it the seed of life, and cannot be self-perpetuating.

Of the folly of those inept pedants who, comfortably to themselves, hold tradition to be not a discipline to govern their conduct, but only a sort of divine licence to be dull and stupid, and likewise of their timid, stiff, and narrow application of tradition, we need not speak at length. They are like the cleric who could quote an authority for everything and a reason for nothing. And of those who vaingloriously rebel against and reject tradition, and would degrade architecture into a hectic jazz or an ambitious show of crude puerilities, the folly stands self-condemned.

Tradition is the groundwork of architectural good manners. Even for the inept it is salutary and necessary. A man may be a dolt. If he is so naturally the chances are that he will always remain so, and can never be made anything else, but it is infinitely preferable that he should be a well-mannered dolt than a dolt and ill-mannered lout at one and the same time. And if tra tion be the foundation of architectural good breeding, might add that it is only the man who *knows* tradit and is sure of himself who can facilely dare someth utterly unprecedented. It takes a well-bred person be unobjectionably informal. Need we a better exam of this than the poor creature in "Pygmalion," who, long as she holds to the set speeches and the conv tionalities in which she has been carefully coached impeccable in behaviour, though stiff and like automaton, but who, directly she lapses into her c vernacular and manners, commits one *faux pas* a another? To put it in a slightly different way, it is o the well-bred man who will be equal to any emerge and behave with combined ease and good sense inst of following the Teutonic course of procedure were suddenly confronted by a lady in flames, to see whet according to rule of deportment number 42, paragrap he might with propriety tear off her clothing to save life.

To them that stand at the parting of the ways hanker after the fleshpots of petty notoriety that rew the purveyor of eccentricities and the secessionist fr tradition, one canot refrain from addressing the quest put by the old Hebrew prophet to the froward Israeli half-minded to run after strange gods—"How long ye between two opinions?"

The Royal Academy Exhibition.—I.

THE Royal Academy has this year changed its appearance, and that for the better—this at least one can confidently assert after the hasty view afforded on varnishing day. Instead of walls covered from top to bottom there are now only two lines of pictures. The relaxation of the rules as to mounts and frames also comes as a reform that has long been needed, and one may perhaps venture to connect these improvements in the general arrangement with the fact that for the first time in history an architect is President of the Royal Academy.

Architectural Room

In the Architectural Room there are large perspectives by Messrs. W. Walcot, Cyril Farey, L. H. Bucknell and others. Drawings which are not the work of the designers of the building are this year clearly marked with the artist's name. Mr. Robert Atkinson shows a design for a theatre in Clayton Square, Liverpool. The new Regent Street Quadrant by Sir Aston Webb, Sir Reginald Blomfield, and Mr. Ernest Newton is shown by a plaster model and a large detail. There is a charming design for a chapel by Sir J. J. Burnet, and the elevation of Mr. R. Frank Atkinson's new General Electric Company building in the Kingsway. Among the smaller drawings hung on the line are perspective views of cottages and other buildings by Sir Aston and Mr. Maurice Webb, a Bank by Mr. Paul Waterhouse, the Lambeth War Memorial by Mr. H. Austen Hall, and a simple and charming interior of the Liverpool College Chapel by Mr. G. Gilbert Scott. Besides these, Sir Edwin Lutyens shows more drawings of Delhi, and Mr. Hubert Worthington a design for the Sedbergh School War Memorial. Other interesting works are an improvement scheme for Richmond by Messrs. Lowry and Bucknell, the Memorial to the Egyptian Expeditionary Force by Mr. Palmer Jones, and cottages by Mr. A. W. S. Cross beautifully drawn by Mr. Griggs.

Sculpture Galleries

The entries in the sculpture section are more numerous than usual, but among the hundred and sixty exhibits there is nothing of great outstanding merit. It cannot be complained, however, that there is any l of quality. This is so far from being the case that is rather haunted by the idea that the yearly increas display of technical excellence is possibly got at expense of less mechanical qualities. Splendidly curate observation and clever modelling are seen every hand; but one seeks in vain for poetry in the c ception and careless ease in the handling.

Among the busts in which artistry and insight more or less discernible are L. F. Roslyn's Ma General Sir Godfrey Paine; Sir Goscombe Jo Edmund Gosse; Derwent Wood's Clemenceau; Willi Wilson's T. E. Lawrence; and, very specially, his s searcher-portrait of Marshal Foch; John E. Hyett's Charles Wyndham; F. W. Pomeroy's "Daughter Colonel Bevis"; W. R. Colton's head of "The Yo Diana"—a child's face of rare beauty of express rather than of feature. Chief among the works imaginative conception is Mr. Allen G. Wyon's gro "The Sorrows of Mankind," in which nude figures men, women and children, typify the sorrows t "plague man's heart" until they have unfolded capacities of his spirit. There is a beautiful mystic about the group; the figures seem to be growing out the marble—"bodied forth" from it, so to speak, rat than sharply chiselled.

For the rest, Bertram Mackennal shows a fine mo of a statue erected at Cliveden by the Canadian R Cross to the men who fought in France and died Cliveden; Flora Kendrick has a wonderfully anima mask of "A Merry Peasant"; Emmeline Halse ha wonderfully expressive "Naughty"—the head of pouting child refusing to be comforted; Henry Pegr has a noble relief bronze of Rachel weeping for children, and a model of a beautiful memorial to Capt H. F. Yeatman; Sir Hamo Thornycroft shows a mo for a small memorial group in bronze, "The Death Colonel Morshead"; and there is a sprinkling of customary Psyches, Meditations, Dawns, Sleepi Waking, Bathers, Study of a Head, and the rest of stock subjects (though we miss the evergreen "Flora most of the figures or groups showing as little orig ality of conception as freshness of treatment.

Briggs, Wolstenholme, and Thornely, FF.R.I.B.A., Architects

This is the winning design in an open competition in which 170 designs were submitted— Mr. Henry T. Hare, F.R.I.B.A., was the assessor. Building operations have not yet been commenced, but the working drawings have been prepared ready for an immediate start. The elevations, which have been kept very simple, are to be carried out in Portland stone. The crowning feature might be made more decorative.

(Royal Academy Exhibition, 1920.)

Registration and Education

HE inefficient organisation of architects is ever the lament of the profession, which appears to have no settled policy for bringing about a change, though much might be done by a little harmony and combination. The real basis of the le largely arises from the long-continued want of a nised definition of the term qualified architect.

e difficulty is not merely metropolitan, it is national. R.I.B.A., because of its charter, is and must ıue to be the national representative of the profes- but it has its weaknesses, and is very rightly subject ticism. So far as that criticism comes from archi- and is directed to the removal of faults and to the ;thening of the Institute's position it is good, but it d not tend to the creation of any feelings of hostility, ı can only react on the well-being of the ssion.

e Institute long ago declared that all future appli- for the Associateship should have previously passed lifying examination in architecture, and the effect v to be seen in the value attached to its membership ı the evident jealousy shown by those who, having cted to qualify, would appear to complain that the are closed.

e main requirement of the Institute in every candi- for membership is qualification, and it is unthink- hat the Institute should now take such a retrograde ;ither for the purpose of merging the Society of tects or for any other purpose as to admit those ıave not passed the necessary examination.

e time is ripe when the provincial societies should their doors to all candidates who do not possess r qualifications to members of the Institute.

is not reasonable that any metropolitan or pro- l society should be content with a lower standard :he Institute, and the present conditions should not be allowed to continue. Great changes are not to be effected quickly, but with united action it should need but a comparatively short period of transition, after which there would be but few architects who had not passed through a complete course of training.

The profession might then have some reason in asking for the protection of registration if it should happen that it did not feel strong enough to protect its own interests without taking upon itself the burden and restraint imposed by legal enactment, for the power of the trade union movement is an object lesson of what may be achieved by co-operation.

A profession properly qualified and thoroughly organised might be expected to command the respect of Parliament; it is for architects themselves to put their house in order.

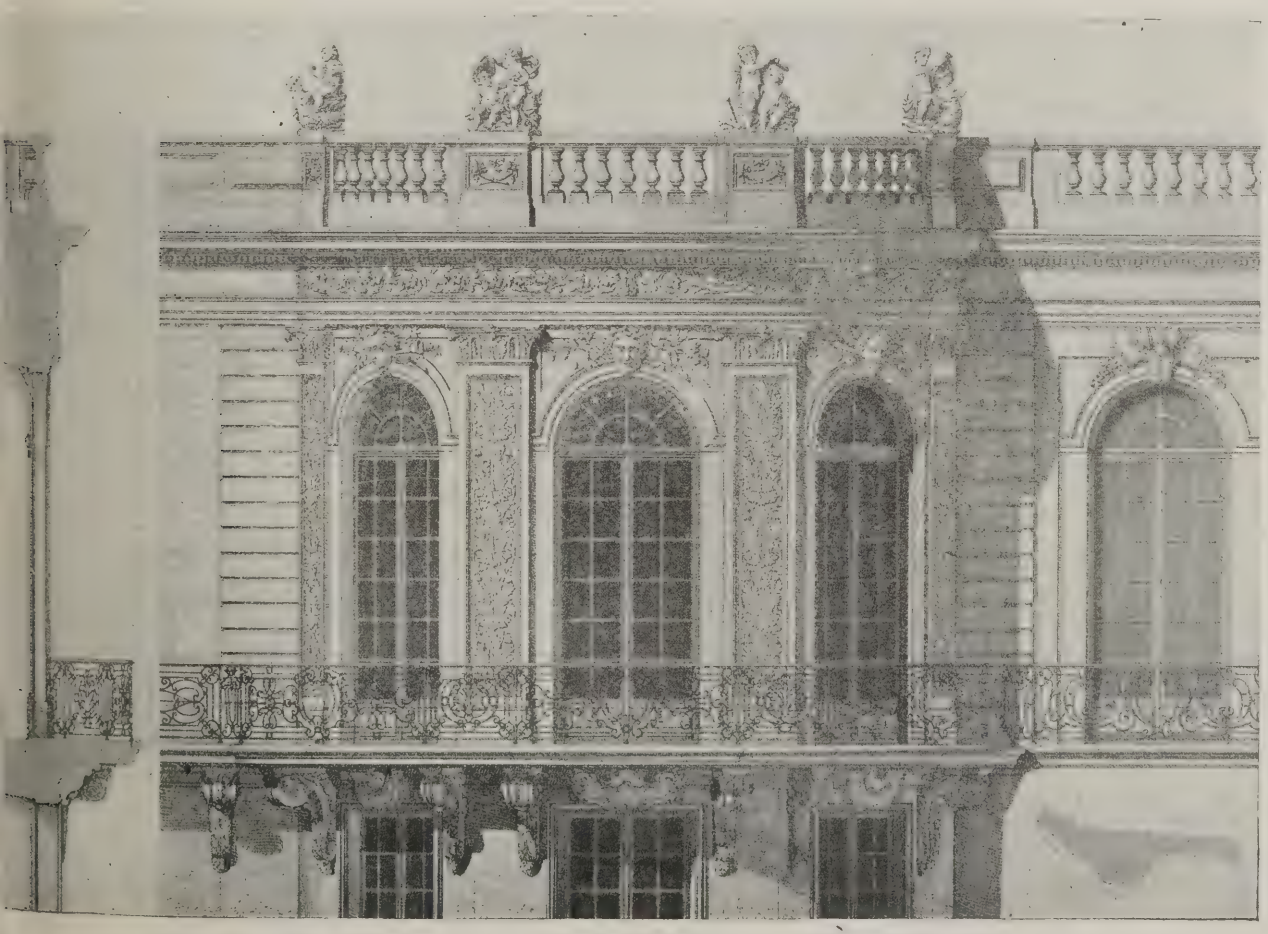
The closing of all the architectural societies would immediately give a great stimulus to the architectural schools, and in this matter the Institute should give the country a strong lead, and any grant made for education should be to the Universities.

The London Architectural Association deserves every credit for what it has achieved for London students passing through its school, but it cannot give the great benefits accruing from association with those preparing for other professions, nor the status of graduates of a University such as is becoming common in the provinces.

The form of Articles of Pupilage issued by the Institute does not take into consideration the architectural schools.

The time has gone by when it might have been possible to create a united and happy profession by placing the names of all architects on the same roll without first defining and insisting on a common basis—namely, professional qualification.

E. PERCY HINDE, F.R.I.B.A.



THE HANOVER PAVILION, BOULEVARD DES ITALIANS, PARIS. LOUIS XV. PERIOD.

Architectural Causerie: Architectural Mode

SIR JOHN SOANE was a great believer in models, ranging from those of his own design to the exquisite miniatures of temples prepared in Paris by Fouquet. Perhaps Mr. Arthur T. Bolton, the curator of the Soane, will favour us with some special information regarding the latter. Most of the London group of the Regency period invested in one or two of Fouquet's models, and thus it has come about that in my study repose replicas to a small size in waxed plaster of the Theatre at Herculaneum, the Arch at Pola, and the Roman Temple at Nîmes, once the property of Taylor and Cresy.

* * *

Models of parts of buildings are extremely advantageous to architects. All the old masters had models of parts made under their own guidance, in order to be quite sure that a cornice or a capital would have the right effect when carried into terms of stone. It is a matter of conjecture as to the ultimate fate of Bernini's full-size model of the order for the colonnade of St. Peter's at Rome; likewise it would be of interest to chance upon Perrault's plaster details for his famous triumphal arch, or Mansard's sketch to full size, in plaster, or whatever it was, of the greater part of the frontage of the Château des Maisons.

* * *

There is a saying that buildings never look so well as when the needles of the scaffolding enshroud the rising walls. It is then that some artists seize the opportunity to have fragmentary details prepared to full size, and hoisted in position preparatory to finishing large drawings for the mason. But the model does not always suffice to prevent mistakes. There is a great danger of losing scale when a few parts are hung between scaffold poles. It is not possible to judge of the mass of a building from the exhibition of its profile in plaster. There always exists a danger zone between the mass of a projected building and a few of its features selected for general scale and strung out at intervals. Even the complete modelling of a familiar feature which is to be repeated, or a quarter of a façade, in length and height, is apt to be misleading as to the general proportioning of a building.

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After all, the ultimate effect of a building depends upon the personality, scholarship, and attainments of the artist entrusted with the design. When I walk through the streets of cities many things reveal themselves, for the buildings assume human traits, some pleasant and some the reverse; willy-nilly a man can only show his own views and reflections, and we all know at a glance whether a building states homely truths or merely reflects an overweening itch for the accumulation of currency.

* * *

Models are essential to the practising architect, whether he takes another building for type or commands a miniature of his own design to be made for guidance. Here is a chance for the contractor, who is just as eager as the architect and the client for the work to be a success. How often it is that a good contractor is wasted interpreting the immature work of mediocrity! The models for a large building may cost a thousand guineas, but such expenditure is never out of proportion to the cost of the completed building. Ship-owners always insist on scale models of their ships; then why in the name of fortune do architects fight shy of advising their clients as to the need for models of important buildings?

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Of every important new building a small model should be prepared to a general scale. Then should follow, as the work proceeds, models of the chief attributes and decorations, both internal and external. The arch should work in closer touch with the sculptor and ca He should call upon his friend the painter constructive criticism—that is to say, the painter sh be asked to give a candid opinion as to the value of mass of the building pictorially, and its relation to conventional scenery of the streets near the proje building.

* * *

We shall never get better street architecture unti have organised control. First, the educational sy must be remodelled; then the municipal interest be educated to an understanding of the meaning of plementary architecture, the status of an architect, other points. A jury representative of competent opi nominated by the Royal Institute of British Archit should be appointed, not only to act in an advi capacity to the London County Council, but availab serve anywhere in the Kingdom. If desirable a rost juries might be prepared. It should not be possibl any private individual, with the aid of any person ca himself an architect, to spend money in order to figure a street. What is the use of training, draw perspectives, models, and the rest of the paraphern an ignorant client, eager to secure immense mon gains, is allowed to defile the street or the landscape any sort of monstrosity he chooses to put up.

* * *

In the past we had good architecture because it possible for patrons and artists to control taste. output was limited, production was slow, and the of the machine had not descended upon man. To things have got out of control owing to the deman mass production; a little more discipline, a few disciplinarians, together with the determined enf ment of stringent regulations, will result in the tid up desired by Professor Lethaby and the rest o Then the artists will come into their own. Then will be found to be men of acumen for business an architecture will be recognised as a commercial and the profession as offering a model career to a y man.

* * *

Now, if there is one feature of modern archite requiring care in design, it is the crowning cornice building. It is safe to say that many years must e before a new type of cornice makes its appearance. shall see returns to archæological principles with tions of mutules, modillions, dentels, and co brackets. Without doubt some enterprising spirit advocate the adoption of Egyptian simplicity in matters. We have it already in Kingsway; but wha the ultimate tendency of the style, a model will be n sary to satisfy architects and clients.

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A well-proportioned cornice, beautifully det will not save a building fretted in the roof lik Hotel Metropole, the Piccadilly Hotel, or other buil less prominent. The aim of architects should simplify, and then to simplify again. Archite expression of complex conditions, if it is to be should be essentially simple. It is ludicrous to im three thousand clerks working in a building shape the Louvre. For less outlay they could be plac a modern palace built of plain material, with a door, a well-proportioned cornice, and nothing The secret of the best American architecture, an that I recognise the works of only the leading inheres in the masterly simplicity underlying the ception.

AE

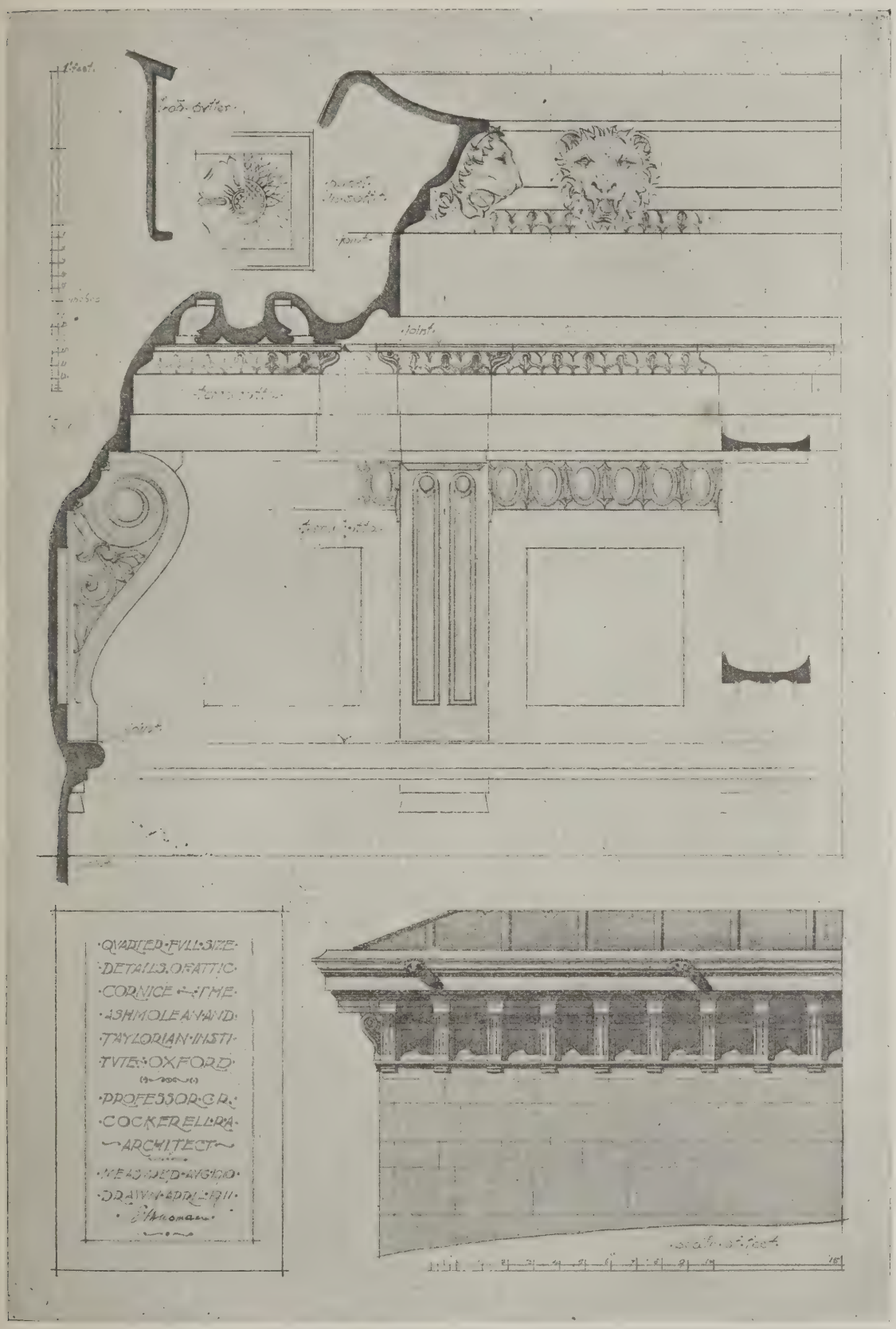
French Façades. 3.—Town House, 10, Rue de Turin, Paris

Escalier, Architect

The charm of this most delightful façade, characteristically Parisian, is due to admirable proportions and refined detail. The gracefully designed balconies and the useful and beautiful decorative features are especially worthy of note.

Measured Drawings. 3.—Details from the Ashmolean Museum and Taylorian Institute, Oxford

Measured and Drawn by E. B. Musman, M.A., A.R.I.B.A.



These mouldings, from the Ashmolean and Taylorian, are of such exquisite grace in shape and proportion, and are applied with such unerring taste, that their illustration is almost an imperative duty. Hence the series of plates on this subject which we are reproducing from Mr. Musman's delicate drawings.

The Week's News

£1,000,000 Housing Scheme

/ood Green Urban District Council have decided to t nearly 1,000 houses. The sum involved in the me amounts to £1,000,000.

Honour for Edinburgh Architect

[r. James Cumming Wynnes, F.R.I.B.A., H.M. ce of Works, Edinburgh, has received the M.B.E. for ices rendered in connection with war emergency dings.

War Memorial Library at Oxford

o commemorate those members of Trinity College lost their lives in the war it is proposed to erect a norial library. The scheme will cost from £15,000 20,000.

Sulgrave Manor

'he Manchester Branch of the Anglo-American iety has issued an appeal to raise £25,000 for the ration, furnishing, and maintenance of Sulgrave ior, in Northamptonshire, the ancestral home from to 1610 of the Washingtons.

Housing Bonds

egulations and a suggested form of prospectus have n issued to local authorities by the Scottish Board of lth with regard to the issue of local housing bonds. al authorities who are unable to finance their housing mes are strongly urged by the Board to institute a paign to popularise the bonds.

Proposed Higher Buildings for London

n the motion of Mr. W. W. Green, who said that lack of office accommodation in the City was greatly pering export trade, the City Corporation have rred to the City Lands and Bridge House Estates mittees the consideration of the question as to what s it was practicable to take to enable buildings to be ied to a greater height than the present restrictions he London Building Act imposed.

London Housing

r. Addison, Minister of Health, has stated, in the se of Commons, that work on the erection of houses progress on fifty-seven different sites in the London . These schemes relate to thirty-eight different local orities. Tenders for the erection of houses have n approved in the case of twelve other local authori- and preliminary work has already been or will shortly commenced. Work on roads and sewers is proceed- n a number of other cases. Considerable progress is g made; but much more is required, and will be forth- ing if money and labour are adequately available.

Registration in Pennsylvania

he State Board of Examiners of Architects have just d a circular of information for the registration of itects in the commonwealth of Pennsylvania. The requires that any person residing in or having a e of business in this State who on July 12, 1918, was engaged in the practice of architecture in the State Pennsylvania, under the title of "architect," shall re engaging in the practice or being styled or known n architect secure from the State Board of Examiners Architects a certificate of his or her qualifications to tise under the title of "architect," and be duly stered.

Railway Housing Scheme

he Metropolitan Railway Company, by means of e subsidiary organisations, the chief of which is the ropolitan Railway Country Estates, Limited, are furnishing a substantial contribution of new built houses to meet the prevailing scarcity. About 1,000 acres are to be occupied, consisting mostly of parklands in the districts served by the Metropolitan Railway to the north-west of London. The houses being erected are of three types. On the Cedars Estate at Rickmansworth they are completely detached, with an acre or more of land to each. A good class of villa residence is being erected at Wembley Park and on the Chalk Hill Estate, Wembley; while in the open country at Neasden, distant only thirteen minutes from London, the houses consist of the small villa type built in pairs.

The Graves of the Fallen

The Council of the R.I.B.A. have examined the proposals of the War Graves Commission embodied in the descriptive account, entitled "The Graves of the Fallen," and consider them extremely satisfactory. The Council especially urge that the principle of uniform headstones, combined with the accentuating features of a cross of Sacrifice and stone of Remembrance, should be maintained as a fine æsthetic expression of the common service and sacrifice they commemorate. The Council further urge that the advice of the competent designers employed by the Commission should be accepted without reserve in order to ensure simple and dignified treatment of the war cemeteries abroad.

Victoria and Albert Museum

An exhibition of recent accessions, by gift and purchase, to the Department of Engraving, Illustration, and Design has been arranged in Room 132 of the Victoria and Albert Museum. The exhibits include a group of old master drawings, mainly from a recent bequest by the late Bernard H. Webb, notably those by Perino del Vaga, Primaticcio, and Perugino, together with some important ceiling designs by Sir James Thornhill. Modern draughtsmanship and design is well represented by a series of original studies by Frank Brangwyn, R.A., for his painted decorations in the Great Hall of the Skinners' Company, and by a collection of drawings by the late Sir E. J. Poynter, P.R.A.

Housing Report

New housing schemes submitted to the Ministry during the week ended April 24 numbered 111. The total number of schemes submitted by local authorities and public utility societies is now 9,726, comprising about 67,500 acres. The schemes approved now number 5,927, and comprise about 45,800 acres. Eighty-four lay-out schemes were submitted and eighty-four approved during the week, bringing the total number of lay-outs submitted to 3,793 and the number approved to 3,147. House-plans representing 1,922 houses were submitted during the week, and plans for 1,893 houses approved. The total number of houses represented in all the plans now submitted is 185,435 and in the plans approved 173,196. During the week tenders were submitted for 5,615 houses. Tenders for 3,996 were approved, bringing the total number of houses in tenders submitted to 104,947, and in tenders approved to 92,415. Two new schemes submitted by the London County Council relate to sites at Grove Park (573 acres) and Castelnau, Barnes (70 acres). The former is the site, mainly in the borough of Lewisham, on which the Bermondsey and Deptford Borough Councils proposed to carry out a joint housing scheme. The Housing Act of 1919 contemplates, however, that a Metropolitan Borough Council shall build only within its own district, and at the suggestion of the Ministry the County Council have taken steps to acquire the land for housing purposes.

The Consistency of Mortar and Concrete

By H. G. LLOYD, A.C.G.I.

TO arrive at the percentage by weight of water to be added to Portland cement and sand, in the case of mortar it is customary to mix the dry materials and then to add a weight of water, less than the requisite amount, and so to continue adding further small quantities until the physical characteristics of the mortar indicate the desired consistency. This object may be attained by a simpler method, if it is approached in a different manner. This may be best explained by an example. Suppose that a test on a sample of Portland cement is to be made in accordance with the British Standard (1915) Portland Cement Specification, and that eventually the sample complies with all the requirements. Suppose, also, that it is known that the Portland cement requires 22 per cent. of water. The mortar briquettes are about to be made in the proportion of three parts by weight of Leighton Buzzard standard sand to one part by weight of Portland cement. If the ingredients are considered separately it will be seen that, since the quantity of water required by the cement is known, it only remains to find out how much is required by the sand in order that it may have the surface of each grain covered by a thin film of water. In other words, the sand needs damping, so that it may not take the water for this purpose from the Portland cement.

The quantity of water required to damp the sand can be ascertained easily in the following manner: Weigh out half a pound of dry standard sand; immerse it in clean water in a small bowl; stir it well, and allow it to stand. Then pour off the superfluous water, empty the sand on to a clean cloth and wring out the cloth with the sand in it. Screw the cloth up by the four corners and whirl it at arm's length until only occasional drops are thrown off. Pour the sand on to a sheet of plate glass; then with a small trowel push the sand to one side of the glass. Mop up the water on the glass, push back the sand with the trowel and repeat the process to and fro, mopping the glass each time, whilst keeping the sand well mixed, until no pools of water remain on the glass, and the glass is only just uniformly damp. Weigh out a convenient quantity of the sand, dry it thoroughly and weigh it again; the difference of weight will be that required to damp the known weight of dry sand. The percentage weight can be calculated. Suppose that it is 4 per cent. of the weight of the dry sand. The total weight of water to produce the standard consistency may then be calculated as follows:

1 pound of Portland cement @ 22% = .220 pounds of water,
3 pounds of standard sand @ 4% = .120 pounds of water,
4 pounds of dry materials require .340 pounds of water.

i.e., the dry materials require .340/4 of 100 = 8.5 per cent. of water to produce a standard consistency.

This may be reduced to a rational formula and thereby the necessity for doing a physical test to obtain the consistency of the cement mortar may be avoided.

Let C = the number of parts by weight of dry Portland cement.
S = the number of parts by weight of dry sand.
c = the percentage of water by weight required by the Portland cement.
s = the percentage of water by weight required by the sand.
w = the percentage of water by weight required by the combined weights of Portland cement and sand.

Then

$$w = \frac{Cc + Ss}{C + S} \quad . \quad . \quad . \quad (1)$$

If, as in the example given for the British Standard Specification Test, C = 1 and S = 3, then

$$w = \frac{c + 3^s}{4} \quad . \quad . \quad . \quad (2)$$

The sand specified for this test is graded within the narrow limits of the 20 × 20 and 30 × 30 square mesh sieves whose apertures are respectively 0·034 in. and 0·023 in., consequently the sizes of the grains are not very different. It should therefore be the easier to establish definitely the quantity of water which is sufficient to damp a given weight of this sand. If this is 4 per cent. of the weight of the sand then formula (2) will be further simplified and become

$$w = \left(\frac{c}{4} + 3\right) \quad . \quad . \quad (3)$$

If extreme accuracy is required in a test it may be necessary to add a small weight of water for the loss due to evaporation and the damping of the tools, etc., used in gauging up the mortar for the briquettes, but this would be so small that for practical purposes the rounding off of the percentages obtained for the Portland cement and sand would cover these losses. If this were, however, desired, then formula (1) would become

$$w = \left(\frac{Cc + Ss}{C + S} + e\right) \quad . \quad . \quad (4)$$

where e = moisture lost by evaporation and left on tools, etc.

In the case of a sand containing grains of many different sizes, such as washed Thames sand out of ballast, which may have been graded, and for which the percentage moisture required to damp each grade has been determined, it is easy to estimate the total moisture needed in order to damp a mixture in any proportions of those grades.

Let S S′ S″ be the number of parts by weight of the different grades of sand, and
s s′ s″ be the corresponding percentages of water required respectively to damp those grades.

Then

$$w = \frac{Ss + S's' + S''s'' \ldots}{S + S' + S'' \ldots} \quad . \quad (5)$$

where w = the percentage by weight of water required by the total weight of sand.

Concrete

In order to obtain the standard con tency for any proportions of concrete co posed of Portland cement, sand, coarse material, the same principle m be adopted as in the case of mortar. T quantity of water required to damp stone may be obtained experimentally exactly the same way as that descri already for sand.

If in addition to the notation in form (1)

G = the number of parts by weigh gravel or coarse material, an
g = the percentage of water by wei required to damp the gravel.

Then formula (1) for concrete will b

$$w = \frac{Cc + Ss + Gg}{C + S + G}$$

This formula (6) may be worked and shown in tabular form as given in following table, where the proportions the concrete are 1:2:2 by weight. T method has the advantage that it give clear explanation of all the essential tails required to work out the form and at the same time is arranged in a c venient way for checking the calculati and for recording the particulars of materials and quantities used.

Materials.	Weight (dry). Proportion.	lb.	Water. Percentage.	Weight lb.
Col. 1.	2	3	4	5
(C) Portland Cement	1	1	22	.220
(S) Thames Sand	2	2	6	.120
(G) Gravel	2	2	1.75	.035
Total	—	5	—	.375
Average	—	—	7.50	—

Note.—For the sake of simplicity weights are given in pounds and decim of a pound, though doubtless for lab tory work cubic centimetres and gram may be considered more convenient.

The gravel in this case had been was and sieved through a half-inch squ aperture mesh and retained on a qua inch square aperture mesh sieve. It then found that this gravel required per cent. of its own weight of water damp it. The determination of the qu tity of water required to moisten the faces of the small stones can be arrive more rapidly than in the case of sand. fact, after the gravel has stood in wa then been swung at arm's length in a cl and tipped on to the glass plate, it not require to be moved about on plate-glass surface. It is soon apparen it has been uniformly damped by amount of moisture left on the glass a the gravel has been moved once. In case of an impervious material like fli is clear that only the surfaces are damp But these surfaces in many rounded pervious pebbles are often irregular, consequently the wetted surfaces are m greater than might be expected from a globular pebble. In addition to relatively large surface which requ moistening there are the cases of m rials which absorb water to a greater less degree. Undoubtedly, the safest is to include this absorbed quantity in total required. If this were not done t would be cases in practice where som the pebbles would absorb water and th by take what was required to moisten surfaces of some of the other pebbles.

* Extracts from a paper read before the Concrete Institute on April 22.

Architectural Details. 2.—Sculptured Ornament from the Palais Royal

M. César Daly, in his monumental work "Motifs Historiques d'Architecture et de Sculpture d'Ornement," published in 1869, collected a wealth of ornamental motifs which has been of immense service to architects, whether in suggesting adaptations or recomposition, or in stimulating inventiveness. The Louis XVI. details here shown are from a building facing the garden of the Palais Royal.

o the case that in certain instances it d be advantageous to the mortar sur- ding the pebbles to be in contact with les containing an additional quantity ater, which would tend to keep the ar damp while it was thoroughly set- and which at the same time would not t its consistency.

ıe Thames sand used in this instance been washed and passed through a re-mesh sieve, ¼ in. in the clear and ned on a sieve 1/75-in. aperture. On unt of the large proportion of fine which this sample contained the de- ination of the moisture required to p it took longer than in the case of the in, as the grains tended to bind ther.

a softer consistency than the standard istency, obtained by the addition of pounds of water to the five pounds aterials, is required, this can be ob- d by adding an extra percentage to amount needed for the standard con- ncy. By making the addition in this there are certain advantages. The r part of Table I. with the addition now become:

l water for standard nsistency ..... .375 pounds.
a water, say 10% ..... .038 pounds.

l water for a plus 10% nsistency = ... .413 pounds.

it is desired to obtain the percentage vater by weight to be added to the rials without any intermediate steps, may be simply expressed by the fol- ng formula (7):

$$y = w + wx/100 \quad . \quad . \quad (7)$$

e w as in (1) = the percentage of r by weight required for standard istency.
= the extra percentage, and
= the percentage of water by weight required for a plus consistency.

for any reason a drier consistency is ired, then a similar deduction from standard consistency might be named ninus 10 per cent. consistency." The ula would then become

$$y = w - wx/100 \quad . \quad . \quad (8)$$

re x would be the deducted percentage y the corresponding percentage for a us consistency.

Coming Events

TUESDAY, MAY 11.

urveyors' Institution.—Annual Dinner onnaught Rooms, Great Queen Street,

WEDNESDAY, MAY 12.

rchitects' Benevolent Society.—Annual eral Meeting of the subscribers and ors in the rooms of the R.I.B.A. Mr. W. Simpson, the president, will take chair. 5 p.m. The report, balance- et, etc., will be submitted to the ting.

FRIDAY, MAY 14.

he Royal Sanitary Institute.—Ses- al Meeting at Scarborough, at 7.30 . Discussion on "Inconsistencies in sonal and Communal Hygiene," to be ned by James Robert Kaye, M.B., I., D.P.H., F.C.S. (County Medical cer of Health, West Riding of York- e). The chair will be taken at 7.30 . by Professor H. R. Kenwood, I.G., M.B., F.R.S.E. (Member of ncil).

Correspondence

"Where Honour is Due"

SIRS,—All who had any dealings with Mr. Ernest Newton in his official capacity as honorary architectural adviser to the Government will endorse the views you express in your issue of April 28. Prior to the war I had not had the pleasure of meeting Mr. Ernest Newton, and I was among those who wondered whether a man who had spent some of the best years of his life in the creation of beautiful domestic work could take the broad view that the position called for. My first interview with Mr. Ernest Newton dispelled any such doubts.

My connection with the trade necessarily brought me in touch with Mr. Newton on many occasions. His genial nature, tact, and breadth of view are qualities which explain how smoothly so many of the difficulties of the Department were overcome. Your article, I suggest, has one omission, and which brings this letter. You refer only to the profession in your last clause. Your remarks apply equally to the building trade, which is not unmindful of the integrity shown in the administration of the regulations. EDMOND J. HILL.

Concerning the Skyscrapers

SIRS,—I should like to call attention to a point of view which I think has been overlooked in the controversy on skyscrapers.

To my mind there should be a sharp distinction between the proposal to build tall office or hotel buildings and any proposal to build skyscraper flats for residential purposes. The democratic spirit of the times decrees that the class of people who would be forced to live in such flats should be consulted on the matter before such buildings are erected. Whoever will live in them it will not be people like Sir Martin Conway. The latter frankly gave his point of view when he said "he lived thirty miles away from London," and this would appear to mean that for himself Sir Martin prefers the amenities of country life, but that skyscraper tenements ought to be good enough for other people to live in!

Such a policy as this can hardly bear comparison with such true-spirited reforms as Mr. Ebenezer Howard's garden city schemes. F. G. COATES.

Architectural Education

SIRS,—As a layman, and not an architect, I have been struck many times by the lack of knowledge of the general public of matters architectural. In London we live our lives surrounded by gems of architecture which are much better known by the visitors from other countries than by our own people who pass them daily.

Could not something be done to educate the coming generation in matters so necessary to mental enlightenment? A certain knowledge of music, and of the arts generally is considered desirable in modern education, and why should not architecture be treated in the same way?

Now that the cinema is being used so successfully in imparting knowledge to the young, I venture to think that a series of films depicting the chief architectural glories of London, fully described, would prove as absorbingly interesting to the young people of to day as it would to their parents, who have had, as laymen, no chance of acquiring knowledge on the subject. INTERESTED.

Royal Academy Ateliers

The several ateliers in London are about to be federated, and the conditions of entry, scheme of organisation, and system of education standardised, so that while each atelier will retain its independence and separate existence under the direction of its patron, it will be one of a group affiliated with the Royal Academy. Admission to the ateliers will be by examination, which will include design, drawing, modelling, mathematics, archæology, and an oral examination. In the first instance, however, the Patrons Committee will nominate a certain percentage of present students to be admitted without examination. Those wishing to have their applications considered must apply in writing to the hon. secretary at 34, Bedford Square, W.C.1, giving details of their architectural education and training, a record of their work in the atelier, and particulars of any awards they may have received.

The fees for membership are two guineas per annum, thirty shillings for each bimonthly competition, and a fee (not fixed) for each esquisse, all fees being payable in advance. Candidates qualifying by examination (including those specially exempted by the Patrons Committee) will be admitted to full membership and be able to participate in all competitions, etc., to have the advantage of the assistance of the patron and sous patron; to compete for the diplomas, mentions, medals, certificates, and other awards, and will be admitted free to the A.A. and University College life classes. Other students may be admitted by the patron pending and contingent on their passing the full membership examination (subject to their being any vacancies). They will pay a membership of two guineas per annum as the other students, and may use the atelier, but will not be entitled to claim the assistance of the patron or sous patron, and will not be eligible to have their work submitted for competition or to participate in the awards. The maximum number of students in each atelier will be thirty.

A candidate after passing the entrance examination is admitted into membership of the second class, and when he has obtained a certain minimum of mentions in various subjects will be admitted into membership of the first class; after obtaining a further minimum of mentions he will be eligible to sit for the Diploma Examination. There will be a Students' Committee for each atelier, who will appoint their own monitors, librarian, and hon. secretary, and will be responsible to the Controlling Committee for the proper conduct of the atelier under the direction of the patron and sous patron.

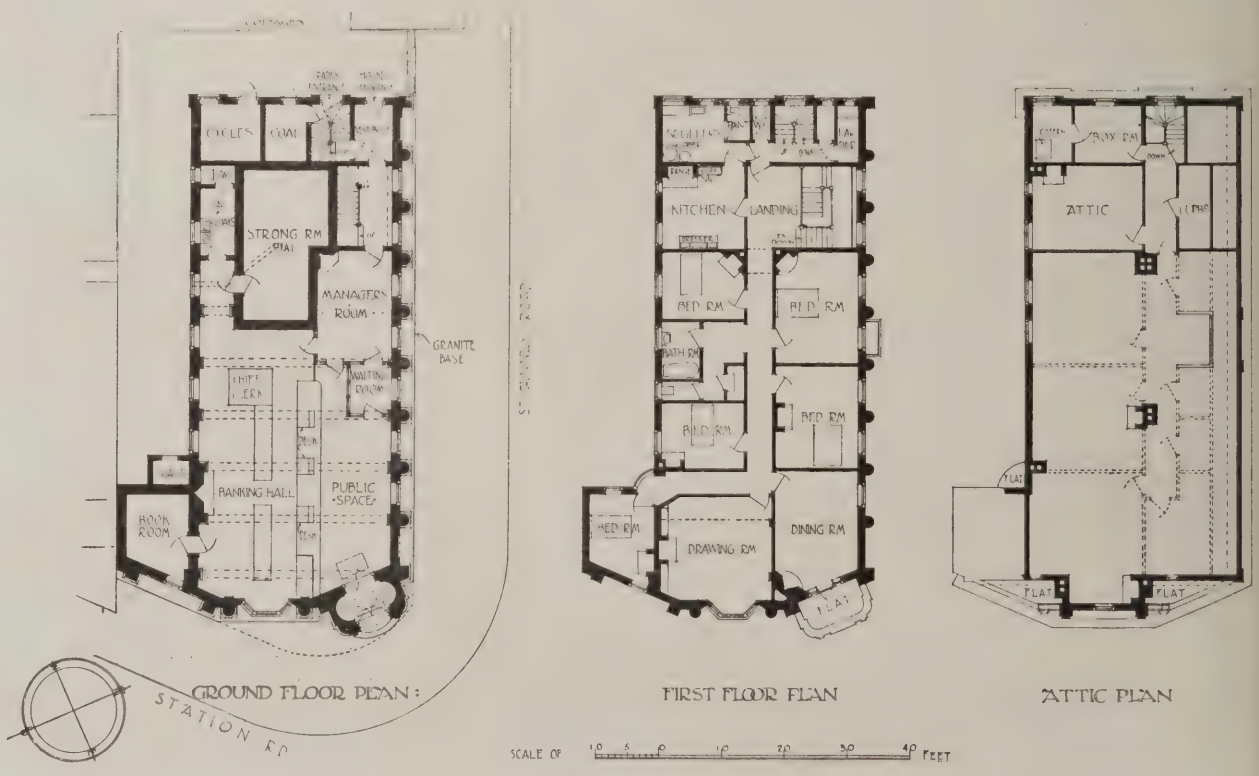
Bi-monthly exhibitions and criticisms will be held, and a yearly exhibition of prize drawings, which latter will become the property of the Royal Academy Ateliers. The jury will consist of two members of the Royal Academy, Sir Reginald Blomfield, R.A., and Mr. G. Gilbert Scott, A.R.A., and the following patrons of the ateliers belonging to the Royal Academy group, Messrs. A. J. Davis, patron of the first atelier, Professor A. E. Richardson, F.R.I.B.A., patron of the University College Atelier, and Mr. R. Atkinson, F.R.I.B.A., patron of the A.A. Atelier.

New Bank for Harrow

The illustrations show the new London County, Westminster and Parrs Bank, which has been erected at Greenhill, Harrow, with a frontage of 52 ft. to Station Road, and 95 ft. to St. Anne's Road. The architects, Messrs. Banister Fletcher and Sons, FF.R.I.B.A., had a very difficult site to deal with, as the meeting of the two roads formed an acute angle, and the new building line towards Station Road had to be set back a distance of 12 ft. 6 in. to meet the requirements of the Harrow Urban District Council. This difficulty, however, has been surmounted in a somewhat novel way by the formation of a frontage line towards Station Road of a triangular shape with the bank entrance at the angle of Station and St. Anne's Roads. A private entrance hall and staircase are also provided to reach the first floor, which forms the manager's residence.

The bank is designed in the late Georgian style, in keeping with some of the older houses in Harrow, and a special attempt has been made to give interest to a brick design. Dignity is obtained by the tooled Peterhead granite base, on which is raised the superstructure of three-quarter columns, entablature and roof (which is of green Westmorland slating in diminishing courses), while a feature is made of the symmetrical distribution of the chimney stacks on each façade. The pediment required at the end of the sloping roof fronting Station Road has been formed by bringing forward the central portion, as shown in the view, and flanking by side consoles, while the junction with the lower portions of the pediment are covered by the chimney stacks. The bricks, hand-made and specially moulded, are 2 in. deep, cherry red for pilasters and columns, and plum colour for main wallings, and were made to the full-size drawings of the architects. The carved brickwork has been executed by Messrs. Gilbert, Seale and Son, the bank fittings and cashiers' desks Japanese oak by Messrs. Elliott Sons, of Caversham, from the de drawings of the architects. Messrs. King and Sons, of Watford, were general contractors.

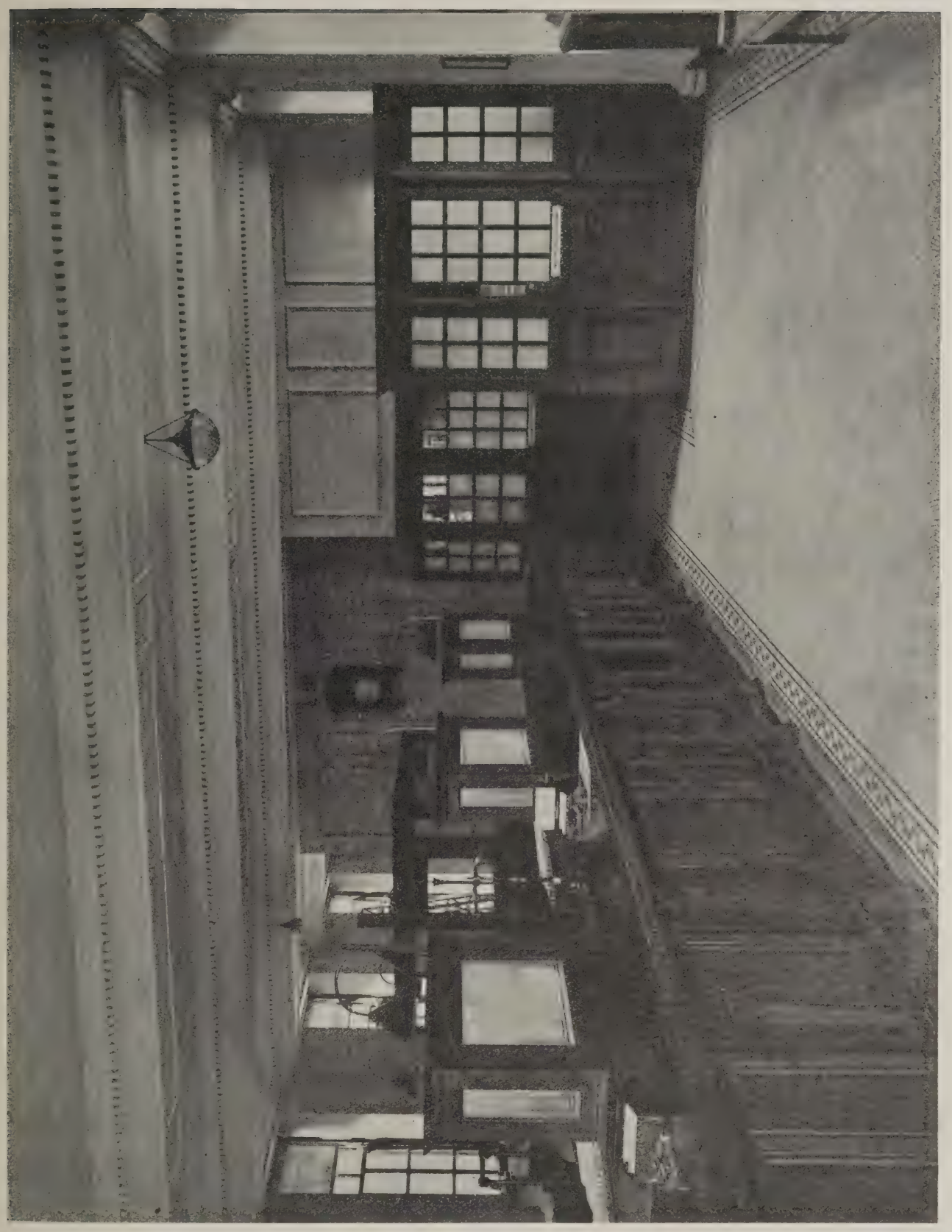
NEW BANKING PREMISES, GREENHILL, HARROW.



NEW BANK, GREENHILL, HARROW. BANISTER FLETCHER AND SONS, FF.R.I.B.A., ARCHITECTS.

Parr's Bank, Greenhill, Harrow

Banister Fletcher and Sons, F.R.I.B.A., Architects



This banking hall is 37 ft. by 30 ft. Its general scheme reflects the Late Georgian style in which the exterior is designed. (For elevation see opposite page.)

Societies and Institutions

Leicester Society of Architects.

The Leicester and Leicestershire Society Architects held their forty-seventh nual meeting in the Colonial Room at e Leicestershire Club. Mr. W. K. dingfield was elected president for the suing year.

The Surveyors' Institution.

The following additional honours have en conferred by the King on Members the Surveyors' Institution: K.B.E.—essrs. Joseph Burn, C.B.E., and William ker Simmons, C.B.E., J.P. C.B.E.—essrs. Edwin Holmes Blake, Alfred mes Brickwell, William John Jeeves, C., Colonel Sir Duncan Alexander nnston, K.C.M.G., C.B., Major William exander Montgomery, D.S.O., and ajor Arthur Perryn Stockings, O.B.E. B.E.—Messrs. Frank Eckersley, Harold ldforth, Laurence Lanham, Alfred nathan Lyddon, William Scott Owen, ., and Henry Ambrose Pritchard. B.E.—Messrs. George Samuel Giller, ederick John James, Joseph Harold Salmon, William Pease Theakston, and Arthur Lloyd Thomas. The name of Mr. W. J. Jeeves (Associate), which appears in the above list, was also included among those upon whom the dignity of King's Counsel has recently been conferred.

It has been decided, on the advice of the Reception Committee of the Somerset, Gloucester, and North Wilts branch, to hold the country meeting at Gloucester on July 8, 9, and 10, instead of June 10, 11, and 12 as was at first suggested.

The Council have for some time been considering the desirability of promoting legislation for the registration of the profession.

South Wales Institute of Architects.

At a meeting of architects from Pontypridd, Merthyr, etc., held at Pontypridd, under the presidency of Mr. Ivor P. Jones, President of the South Wales Institute of Architects, it was unanimously decided to form a new branch for the Northern District. The following Executive Committee was elected: Chairman, Mr. E. W. G. Richards, Merthyr; secretary, Mr. T. Edwin Rees, Merthpr; treasurer, Mr. Jacob Rees, Pentre. Members: Messrs. J. Llewellyn Smith, Licentiate R.I.B.A., Aberdare; G. Vincent Evans, Licentiate R.I.B.A., Pontypridd; T. W. Millar, Mountain Ash; W. D. Morgan, Pentre; and A. Almond, Pontypridd (Associates' representative). The representatives of the Northern Branch on the Council of the South Wales Institute of Architects were also elected as follows: Messrs. E. W. G. Richards, W. D. Morgan, J. Llewellyn Smith, and A. Almond.

UNITY BUILDING, DUBLIN. VIEW FROM SACKVILLE STREET.
GEORGE P. BLATER AND BECKETT AND HARRINGTON, JOINT ARCHITECTS.

The Assistants' Union.

Representatives of the Architects' and Surveyors' Assistants' Professional Union attended the sixth of the conferences arranged by the Society of Architects at the Olympia to explain the scope and objects of their organisation. Mr. E. J. Partridge took the chair.

Mr. R. G. Llewellyn Evans, M.S.A., said that the Union was the outcome of present conditions. Everybody acknowledged that before the war the architects' assistant was exceedingly badly paid. The Union had now been established a year, and numbered many hundreds—over a thousand, though he was not at liberty to say how many.

Mr. C. MacLachlan A.R.I.B.A., spoke of the position of the architects in the profession a hundred years ago, when, out of every man who entered the profession 90 per cent. of them ultimately achieved their own practices, while to-day the number who achieved that position did not total 50 per cent. Obviously, the positions to be secured must be made alluring, otherwise the assistants would leave the profession.

Mr. T. Braddock said that no other union had drawn such a large membership in such a short time. There was a crying need in all architects' offices for men of ability. The only thing that could supply the need was to increase the assistants' position and pay. How many assistants he asked, could afford to have a good library or to take in the technical papers, which in themselves were an architectural education.

Sir Charles Ruthen thought the Union would have beneficial results to the profession generally. He had heard it said that the assistant had no opportunity. He was one who believed everyone had his opportunity. Ability would get them work, and keep it for them. Success was gained by hard work, and he did not believe that any man could be kept in an architect's office if he wanted to get out of it.

Mr. E. J. Sadgrove said that unless the Union were prepared to grant a certificate of qualification he did not know on what ground they were going to base a claim.

Mr. Evans, replying to some of the criticisms, said that he could not agree that ability was bound to come to the top. With regard to a minimum wage, employers could still take the best talent that offered and let the other men get out of the profession. At present there was a shortage of good assistants, and he was sure that they were not making the profession attractive enough for the right kind of man.

The New Building Contract

DURING the conferences arranged at the Olympia by the Society of Architects, representatives of the National Federation of Building Trades Employers attended to explain and discuss the new building Code recently introduced by the Federation. Sir Charles Ruthen, O.B.E., F.R.I.B.A., took the chair.

Mr. Forsdyke, Senior Vice-President of the Federation, said that the Code was an attempt to express fair conditions both for the architect and for the builder. The day when builders took very little interest in the conditions under which they worked had passed, and while they were not out for any extravagant ideas, they had determined to get fair and honest working conditions, so that the architect, the builder, and the employer might all benefit equitably.

Mr. Moffat, Birmingham, said that it was felt that there should be one Code for the whole of the country, and if such a document could be produced which was good enough for public authorities, then it would be good enough for private use, and vice-versa. The Drafting Committee had not worked upon existing forms of contract, but thought it best to take their own experience, and start again at the beginning. They had to look at the matter solely from the point of view of the contracting parties—the employer and the contractor. To bring building contracts to the same basis as contracts between willing buyers and willing sellers in other industries, it became necessary clearly to define the position of other people coming on to the job, such as the architect and his representatives, the quantity surveyor, the clerk of works, the sub-contractors, the contractors' foreman, and other people. It was the practice in the commercial world that the purchaser should say exactly what he wanted, and in the Code that understanding was embodied in the bills of quantities and the working drawings; any other documents, including the specification, became subsidiary matters. The Federation desired that the contractors should take entire responsibility for the work, and that the contractors should delegate any work that had to be done by sub-contractors. Given ten years of satisfactory working, he thought it was not too much to expect that at the end of that period it would be adopted by the entire trade, under Government supervision. A committee was at present at work preparing a form of standardised quantities. The question of arbitration was also under consideration. The committee did not see why the procedure could not be elaborated so that arbitrations in the building trade might not be more expensive than legal cases, and that they might be fought out locally. Builders were no longer prepared to carry out contracts on the old lines; there were far too many risks and far too little return for the work and capital put into a job, and they were determined to have better conditions in the future. In his opinion, the best plan would be for the Government to call a conference to consider the matter, and to issue a document which would stand for a term of years, and which could not be altered until the expiration of that period. He remarked that they had devoted three solid years to the preparation of a thing which had to come, and had to stay when it had come.

Mr. Woods, Bolton, said that there was a revolution of conditions going on throughout the world, and it had not left the building trade untouched. Agitation had been going on for ten years for the alteration of this and that clause, but it was felt by the Federation that they could not go into any particular clause, but reconsideration of all the conditions was necessary, and that was how the document came under discussion during the war period. With respect to the arbitration clause, the trade did not wish for expensive arbitration, but for friendly and amicable settlement at as little cost as possible, and this was provided for in the Code by the formation of panels of arbitrators consisting of architects, builders, and quantity surveyors in each area, which could be called upon to adjudicate in any case in their area. There were many architects with whom they did not require any contract whatever, but there were bad architects as well as bad builders, and a strict Code had to be prepared to meet everybody in the profession.

Mr. E. J. Sadgrove (President of the Society of Architects) said that in the first instance, rightly or wrongly, the client looked to the architect to protect him and watch his interests, and, speaking personally, he could not advise a client to sign a contract such as that under consideration, because the whole responsibility seemed to be thrown on to the employer all the time. From the point of view of the contractor, the contract was, "Heads I win, tails you lose." With some consideration between representatives of architects, contractors, and quantity surveyors, he thought a sound document could be prepared, but as it was he did not think the Code would be accepted by the Society of Architects or the R.I.B.A. They themselves had seen the faults in the old Institute form of contract, and had, indeed, produced a new form of contract of their own.

Mr. Sullivan said that they wanted a really well-balanced document that would give equal satisfaction to all sides, and, he took it, that was what they were out to give. He suggested that the R.I.B.A., the Society of Architects, and the Employers' Federation might combine in an application to the Government to consider a new building code.

Mr. Thompson said that there appeared to have crept up among architects the feeling that the contractor was a man to be watched. The fact that they refused to work under present conditions was entirely due to the way they had been treated in the past by certain architects. They had had to rely entirely upon the goodwill of the architect, and often they had trembled at the conditions they had to sign. He held that the majority of those in the building trade were prepared to give a fair thing at a fair price.

Mr. Marlowe Reade said that he wanted architects to understand that a Code once settled would result in much cheaper building. He was very glad to see that the owner was made responsible for the site, and that he was to be made responsible for anything which was discovered on the site which would add to the cost of the building. The erection of a building ought to be on a commercial and not on a gambling basis.

Mr. Nicholls (Gloucester) said that the interests of the architect and the builder should coincide; to create confidence there should be the feeling that they w dealing squarely one with the oth Under present conditions the contract in order to protect his own interests, being forced into channels into which did not want to go.

Mr. Taylor, Bradford, said that it wa mistaken idea that builders were agai the architects. Builders were depend upon architects for their work, and th wanted to work with them and help th in every way they could.

Mr. Anderson, South Wales, said t under the old form of contract the buil became a cipher and not a man at all. the old days even the contractor's v plant was not his own—as soon as he to it on to the building it became, wh there, the property of his employ There always seemed to be a suspic against building, but what was one to when architects were found entering i competition with them as builders?

Mr. Sadgrove said that it was news the Society of Architects that such a thi was taking place as Mr. Anderson h just mentioned. It had always been object of the Society to prevent that ki of thing.

Mr. Forsdyke, responding to a vote thanks, said that they were out to get very best conditions for all concerned, a felt that the time had come when builder should be put into a proper pla

Competition News

Bradford-on-Avon.

War memorial. Cost £400. Premiu 25 guineas. Apply Mr. J. Compton, We bury House, Bradford-on-Avon. Clos date, May 8.

Lockerbie.

War memorial. Cost £2,000, exc sive of roll of honour, architect's fees, a outlays. Particulars from Mr. M'Jerrow, Town Clerk. Closing da June 30.

Sheffield.

War Memorial Halls. Assessors, Aston Webb, K.C.V.O., P.R.A., and F. E. P. Edwards, F.R.I.B.A. Premiu £250, £150 and £100. Apply Mr. W. Hart, Town Clerk. Designs by July 31

Victoria Hall, Exeter.

The assessor has made the follow awards in the competition for the Victo Hall, Exeter: First, Mr. S. Clough, 1 Edith Grove, West Brompton, Lond S.W. Second, Mr. T. Braddock, 8, T Ridgeway, Wimbledon, London, S. Third, Messrs. Mendham and Wood, and 21, Queen Victoria Street, Lond E.C.

Southport Secondary School.

The assessor for the competition for new secondary school for boys at Southp Mr. Maurice Webb, M.A., D.S. C.M.G., F.R.I.B.A., has awarded the p miums offered by the Southport Educat Committee as follows: First premiu Messrs. Granger and Leathart, 35, Can bury Road, Brixton, London, S.W Second premium, Mr. Charles B. Pe son, 18, Dalton Square, Lancaster. Th premium, Messrs. Adshead, Topham a Adshead, 23, King Street, Manchest The designs submitted, ninety-six number, are being exhibited until May in the Municipal Art Gallery, Lord Stre Southport.

Current Prices of Materials

NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of e and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

BOUR RATES AND IATERIAL PRICES.	MEASURED WORK PRICES.
AVATOR AND CONCRETOR	
vator, 1s. 9d. per hour.	Excavating and throwing out in ordinary earth,
ourer, 1s. 9d. per hour.	not exceeding 6 ft. deep, basis price, 3s. 6d. per
ry, 1s. 9d. per hour.	yd. cube.
erman, 1s. 10d. per	Exceeding 6 ft., but under 12 ft., add 25 per cent.
ar.	In stiff clay, add 50 per cent.
older, 1s. 10d. per	In underpinning, add 120 per cent.
ar.	In rock, including blasting, add 225 per cent.
chman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
en brick or stone,	Return, fill, and ram, ordinary earth, 3s. 3d. per yd.
n., 7s. per yd.	Spread and level, including wheeling, 3s. 4d. per yd.
nes ballast 19s. per yd	Planking, 6d. per ft. sup.
Gravel, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth
and, 22s. per yd.	35 per cent.
ned sand, 23s. 6d. per	Hardcore, 2-in. ring, filled and rammed 4 in. thick,
	3s. 9d. per yd. sup.
ned ballast or gravel,	Do. 6 in. thick, 4s. 6d. per yd. sup.
l 10 per cent. per yd.	Puddling, 36s. per yd. cube.
er, breeze, etc., prices	Cement concrete, 4.2.1, 55s. per yd. cube.
ording to locality.	Do. 6.2.1, 52s. per yd. cube.
and cement, 80s. per	Do. in upper floors, add 12½ per cent.
.	Do. in ferro concrete work, add 20 per cent.
in small lots, ex	Do. in underpinning, add 50 per cent.
ndon stock, 100s. per	Lias lime concrete, 48s. per yd. cube.
.	Breeze concrete, 34s. per yd. cube.
lime, 70s. per ton.	Do. in lintols, etc., 5s. 5d. per ft. cube.
s charged extra at	
6d. each and credited	
en returned at 2s.	
sport hire per day:	
t and horse, 28s.	
on motor lorry, £6 15s	
am lorry, 5-ton, £6.	
iler, 32s. 6d.	
am roller, £4 10s.	
ter cart, 30s.	
NER.	
urer, 1s. 9d. per hour.	Stoneware drains, jointed in cement, tested pipes,
erman, 1s. 10d. per	4-in. 3s., 6-in. 4s. 6d., 9-in., 6s. per ft.
r.	Cast-iron drains, jointed in lead, 4-in. 9s., 6-in.
layer, 2s., 0½d. per	15s. 3d., 9-in. 26s. 6d. per ft.
r.	Note.—These prices include digging and filling for
ber, 2s. 1d. per hour.	normal depths, and are average prices.
hman, 6s. 6d. per shift.	
ware pipes, tested	
lity, 4-in. 3s., 6-in.	
9d., 9-in. 7s. 11d. per	
iron pipes, coated,	
. lengths, 4-in. 4s.,	
. 5s. 9d., 9-in. 8s. 6d.	
yd.	
and cement and sand,	
Excavator above.	
for caulking, 55s.	
cwt.	
et, 1s. 9d. per lb.	
KLAYER.	
layer, 2s. 0½d. per	Brickwork in stone lime mortar, Flettons or equal,
r.	£49 per rod.
rer, 1s. 9d. per hour.	Do. in cement do. £53 per rod.
older, 1s. 10d. per	Do. in stocks, add 20 per cent. per rod.
r.	Do. in blues, add 320 per cent. per rod.
n stocks, 86s. per M.	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
ons, 75s. per M.	Do. picked Flettons, 5d. per ft. sup. extra.
ordshire blue, 220s.	Do. picked stocks, 7d. per ft. sup. extra.
M.	Do. salt, white, or ivory glazed, in areas, 6s. per
ricks, 2½ in., 223s. per	ft. sup. extra.
	Struck pointing, 4½d. per ft. sup. extra.
d, salt, white, and	Tuck pointing, 1s. per ft. sup. extra.
y stretchers, £25	Weather pointing, 4½d. per ft. sup. extra.
M.	Granolithic and Cement paving, 1-in., 5s. 3d. per
headers, £24 10s.	yd. sup.
M.	Do. 1½-in., 6s. per yd. sup.
rs, extra, 130s. per M.	Do. 2-in., 8s. per yd. sup.
ds, less, £1 per M.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
nt and sand, see Ex-	Asphalte, damp course, ½in., 1s. 6d. per ft. sup.
ator above.	Do. vertical 2s. per ft. sup.
grey stone, 65s. per	Slate damp course, 2s. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 12s.
l lime mortar 26s.	per yd.
yd.	Do. skirting, 6-in., 1s. 8d. per yd.
course, in rolls of	
in. 4s., 9 in. 7s. 3d.,	
in. 10s. 9d., 18 in.	
per roll.	
N (INCLUDING SLATE).	
r, 2s. 0½d. per hour.	Hoisting and setting stone, 1s. 11d. per ft. cube.
xer, 2s. 1½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
rer, 1s. 9d. per hour.	Plain face Portland, basis, 2s. 6d. per ft. sup.
lder, 1s. 10d. per	Do. circular, 3s. 4d. per ft. sup.
r.	Sunk face, 3s. 6d. per ft. sup.
	Do. circular, 4s. per ft. sup.
nd stone:	Joints, arch, 2s. 3d. per ft. sup.
bed, 4s. 5d. per ft.	Do. sunk, 2s. 3d. per ft. sup.
be.	Do. do. circular, 3s. per ft. sup.
bed, 4s. 8d. per ft.	Circular-circular work, 15s. per ft. sup.
be.	Plain moulding, straight, per inch of girth, 9d. per
stone, 3s. 1d. per ft.	ft. run.
be.	Do. circular, 1s. per ft. run.
ield red, 7s. 6d.	Half sawing, 1s. per ft. sup.
l trade extras for	Add to the foregoing prices if in York stone 35 per
e blocks.)	cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in.	
3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn,	Deduct for Bath, 33⅓ per cent.
per ft. cube, 10s. 3d.	Do. for Chilmark, 5 per cent.
Slate shelves, rubbed, 1 in.,	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
2s. 8d. per ft. sup.	Rubbed round nosing to do. 8d. per ft. lin.
Cement and sand, see "Ex-	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
cavator," etc., above.	
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal:
Tiler, 1s. 11½d. per hour.	Ladies 95s., Countess 103s., Duchess 117s. per
Scaffolder, 1s. 10d. per	square.
hour.	Westmoreland, in diminishing courses, 150s. per
Labourer, 1s. 9d. per hour.	square.
N.B.—Tiling is often	Delabole do. 115s. per square.
"Piecework."	Add, if vertical, 8s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square
Slates, 1st quality, per M.:	approx.
Portmadoc, Ladies £19	Double course at eaves, 1s. per ft. approx.
10s., Countess £35,	Tiling, 4-in. gauge, 5th course nailed, in hand-made
Duchess £47.	tiles, average 105s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 92s. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 55s. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Ex-	
cavator," etc., above.	
Handmade tiles, 155s. per	
M.	
Machine-made tiles, 135s.	
per M.	
Westmoreland slates, large	
260s. per ton, Peggies	
200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 0½d. per	Fir, fixed, in wall plates, lintels, sleepers, etc.,
hour.	13s. 3d. per ft. cube.
Joiner, 2s. 0½d. per hour.	Do. framed in floors, roofs, etc., 14s. per ft.
Labourer, 1s. 9d. per hour.	cube.
	Do. framed in trusses, etc., including ironwork,
Timber, average prices, ex-	14s. 3d. per ft. cube.
London stock and d/d	Pitch pine, add 33⅓ per cent.
works or site.	Fixing only boarding in floors, roofs, etc., 18s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel:	Centering for concrete, etc., including horsing and
1st £70, 2nd £66 10s., 3rd	striking, 98s. per sq.
and U/S. £64 10s. per	Slate battening, 29s. per sq.
std., or	1-in. deal gutter board on firring, 108s. per sq.
1st 8s. 6d., 2nd 8s., 3rd	1¾-in. molded casements in 4 sqs., glazing beads and
and U/S. 7s. 7d. per ft.	hung, 3s. 9d. per ft. sup.
cube.	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £68,	Deal cased frames, oak sills, 2-in. D.H. sashes,
3rd and U/S. £65 per	brass pullies, etc., 4s. 10d. per ft. sup.
std.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Do. F.E., 3rd and U/S.	Do. do. do. 1½in. 3s 3d. per ft. sup.
£58.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Battens, 3rd and U/S.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
£51.	If in oak multiply 6 times.
Yellow: 1st £83 10s., 2nd	If in mahogany multiply 6 times.
£69, 3rd and U/S. £64	If in teak multiply 7½ times.
5s. per std.	Wood block flooring, standard blocks, laid in
Norwegian or Swedish:	Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d.,
Boards, planed, U/S. £62	1½-in. 16s. 6d. per yd. sup., average.
per std., equals 63s. 6d.	Staircase work, deal:
per sq. of 1 in.	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
Flooring, P.E., U/S. 61s.	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
per sq. of 1 in.	
T. and G. and matching,	
U/S. 63s. per sq. of 1 in	
Wainscot, oak, 3s. 9d. per	
ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup.	
of 1 in.	
Do. Cuba, 4s. 9d. per ft.	
sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of	
1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 1d. per hour.	Milled lead and labour in gutters, flashings, etc.,
Mate or labourer, 1s. 9d.	80s.
per hour.	Lead pipe, fixed, including running joints, bends,
	and tacks, ½-in., 2s. 2d. per ft.
Lead, milled sheet, 55s.	Do. ¾-in., 2s. 11d. per ft.
per cwt.	Do. 1-in., 3s. 4d. per ft.
Do. Drawn pipes, 55s. 6d.	Do. 1¼-in., 4s. per ft.
per cwt.	Lead waste or soil, fixed as above, complete, 2½-in.,
Do. soil pipe, 60s. per	10s. 9d. per ft.
cwt.	Do. 3-in., 11s. per ft.
Do. scrap, 28s. per cwt.	Do. 4-in., 15s. 9d. per ft.
Copper, sheet, 2s. 3d. per	Cast-iron R.W. pipe, at 24 lb. per length, jointed in
lb.	red lead, 2½-in., 2s. 2d. per ft.
Solder, plumbers, 1s. 9d.	Do. 3-in., 2s. 6d. per ft.
per lb.	Do. 4-in., 3s. 3d. per ft.
Do fine, 2s. 6d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc.,
Red and white lead, 10d. per	4-in., 2s. per ft.
lb.	Do. O.G., 4-in., 2s. 3d. per ft.
Cast-iron pipes, etc.:	Cast-iron soil pipe, fixed with caulked joints and all
L.C.C. soil, 2-in. 5s.,	ears, etc., 4-in., 5s. 3d. per ft.
3-in. 7s. 6d., 4-in. 8s. 9d.	Do. 3-in., 4s. 6d. per ft.
per yd.	Fixing only:
R.W.P., 2½-in. 3s. 6d.,	W.C. pans and all joints, P. or S., and including
3-in. 4s., 4-in. 4s. 6d.	water waste preventers, 48s. each.
per yd.	Baths only, with all joints, 40s. each.
Gutter, 4-in. H.R. 2s. 9d.,	Lavatory basins only, with all joints on brackets
4-in. O.G. 3s. per yd.	33s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ½ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 0½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 9d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 67s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 11½d. per hour.	Lime whiting, 2 coats, 6¾d. per yd. sup.
Labourer, 1s. 9d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. 1d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 11½d. per hour.	Knot, stop, and prime, 9d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	Do. subsequent coats, 1s. 3d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 5d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 10d. per yd. sup.
	Figured do. do. 8s. per yd. sup.
Turpentine, 18s. 6d. per gal.	French polishing, 1s. 10d. per ft. sup.
	Stripping old paper and preparing, 2s. per piece.
Liquid driers, 22s. per gall	Hanging paper, ordinary, 2s. 3d. per piece.
Knotting, 29s. per gall.	Do. fine, 3s. and upwards per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Varnishing paper, 1 coat, 15s. 6d. per piece.
	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Petrifying liquid, 4s. 3d. per gall.	Varnishing, hard oak, 1st coat, 1s. 6d. per yd. sup.
Double size, 7s. per firkin.	Do. each subsequent coat, 1s. 4d. per yd. sup.
Pumice stone, 9d. per lb.	
Hard stopping 9d. per lb.	
Varnish, hard oak, 19s. per gall.	
Do. Outside do., 19s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 22s. 6d. per gall.	
Do. Flat, 22s. 6d. per gall.	
Do. Paper, 22s. 6d. per gall.	
French polish, 28s. per gall	
Turps substitute, 7s. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £58 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £42 per ton
Erector, 1s. 10d. per hour.	Do. in compounds, £47 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reeinforcement, £46 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buildin in, 60s. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including wa and driving screws, 1s. 7d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including stu or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last. flat, 5s. 5d. per y sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in pla colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not includi wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per ft. su
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not includi battens or boards, plain "diamond" per squar grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the co of cement used (about 3s. to 4s. per bushel cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 6d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 1d. per ft.

These lists are strictly copyright.

Competition for War Memorial to be erected at the R.I.B.A.

The Council of the Royal Institute have decided to erect a Memorial Tablet with the names of those Members, Licentiates, and Students of the R.I.B.A. who laid down their lives in the service of the Empire during the Great War. A competition is to be held for the design of the Tablet. It will be open only to Members, Licentiates, and Students of the R.I.B.A. who served in the forces during the War.

The President has been requested by the Council to act as Assessor. The conditions of the Competition have been published, and copies can be obtained by any intending competitors who apply to the Secretary.

The Council invite subscriptions, which should in no case exceed one guinea, to raise a fund for the erection of the Memorial. Cheques or Postal Orders should be made payable to the Royal Institute of British Architects, and should be addressed to the Secretary, 9, Conduit Street, Regent Street, W.1.

INSTRUCTIONS TO COMPETITORS.

1. The Council of the Royal Institute of British Architects invite those of its Members, Licentiates, Students, and Probationers who have served in His Majesty's Forces during the War to submit designs for a Memorial to be placed in the Hall of the Institute premises.

2. The Council have appointed the President to act as the Assessor and to make the awards in accordance with these instructions.

3. The award of the Assessor shall be final and binding on both the Council and competitors, and the Author of the design placed first will be appointed to carry out the work—saving that if in the opinion of the Assessor there is some valid objection to his appointment, or if in his opinion any or all of the designs are not of sufficient merit—the Council reserve the right to withhold the appointment or any or all of the premiums.

4. Subject only to the above provisions the following sums shall be paid:—

To the Author of the design placed first, an honorarium of 100 guineas.

To the Author of the design placed second, a premuim of 30 guineas.

To the Author of the design placed third, a premium of 20 guineas.

The Author of the design placed first, when appointed to carry out the work, shall make such amendments (if any) in his design as the Council may desire, shall prepare and supply complete working drawings and details, shall superintend the execution of the work, and certify for payment.

5. The choice of materials is left to the competitors, but it is stipulated that the Memorial should be so constructed that it may be removed and re-erected elsewhere in the event of this being necessary at some future time.

Space is required upon the Memorial for approximately 200 surnames with initials only of christian names (no ranks or regiments). Special attention is to be paid to the lettering, which must be clearly legible. The wall area upon which the Memorial is to be placed is indicated on the attached drawing (to be obtained upon application to the Secretary, R.I.B.A.).

6. The total cost of the Memorial fixed complete is not to exceed the sum of £500, exclusive of Honorariums and Premiums.

7. The method in which the drawings are finished is left to the discretion of the competitors, but they must be on white paper, and unframed. Mounting on strainers or cards (without wide margins) is optional, but all drawings must be delivered flat. Models are not invited.

The following drawings are required:—

One-eighth full size (= 1½ in. scale) elevation of Memorial, showing position in space allotted (clause 5), with explanatory sections and plans.

Any typical full size details with examples lettering which competitors may desire to submit (one sheet only).

No report is required, but full notes and particulars as to treatment, materials, and cost, are be *clearly* written on the drawings.

8. After the award has been made the competiti designs will be exhibited in the R.I.B.A. Galleries.

The Council will exercise every reasonable ca with regard to the several drawings, but will n be responsible for any loss or damage which m occur.

9. A design shall be excluded from the competiti for any of the following reasons, of the sufficien of which the Assessor shall be the sole judge.

(1) If sent in after the specified date (accidents transport excepted).

(2) Non-compliance in any important respect wi these instructions and particulars.

10. All designs are to be sent in anonymous without motto or device of any kind, and are to delivered carriage paid addressed to the Secretar Royal Institute of British Architects, 9, Condu Street, London, W., and endorsed "R.I.B.A. W Memorial Competition," on or before July 20t 1920.

Each design is to be accompanied by a seal foolscap envelope containing the name and addre of the Author, and a declaration signed by h stating that the design is his own personal wo and that the drawings have been prepared by hi or in his office under his own supervision.

Any questions which competitors desire to ra must be addressed to the Secretary R.I.B.A. on before 30th May next; copies of such questions, a the answers thereto, as the Assessor conside necessary will be sent to each competitor, and w be regarded as supplementary to these instructio

The Week's News

(*Concluded from page* 587)

Tonbridge and Direct Labour.

he Tonbridge Urban District Council e decided to build houses by direct ›ur.

Bromborough Model Village.

model village is in course of forma- at Bromborough, Cheshire. As a iminary step 1,000 houses are to be t, half of which are already under con- ction.

New School at Greenock.

school on the plasmentic system of srs. Speirs, Ltd., Glasgow, is being t as an addition to Mearns Street ›ol. It will accommodate 480 scholars, the estimated cost is £5,650.

'orestry Department of Edinburgh University.

he additional laboratories for the estry Department of the University, in rge Square, are now completed. The s were prepared by Sir Robert mer, A.R.A., F.R.I.B.A.

New Town Hall for Brisbane.

he Town Council have approved s, specifications, and an estimate of for the erection of a new town hall. council propose to raise a loan of 000 to acquire additional land for the and £480,000 to erect the town hall.

Rutland Mansion Destroyed.

ne fine Elizabethan mansion Edith ›ton Hall, Rutland, the property of Stafford Hotchkin, has been almost pletely destroyed by fire. Only the s of the main building remain stand- and the damage, which is covered by rance, is estimated at nearly £30,000.

Concrete Houses.

he Ministry of Health have in hand a me for the erection of "demonstra- " houses in various centres to bring re the public and local authorities cted examples of new methods of con- ction in concrete which have been roved for use in the housing of the king classes.

Unification and Registration.

he R.I.B.A. are inviting Licentiates tend a general meeting, to be held on sday, May 18, at 4.30 p.m., to elect n representatives of the Licentiates erve on the Unification and Registra- Committee. In addition to the Presi- , who will act as chairman, and two Presidents, the Royal Institute will represented on this Committee by t Fellows, seven Associates, and seven ntiates. The President will occupy chair.

The Ventilation of Parliament.

r A. Mond, First Commissioner of ›ks, was asked in the House of Com- s whether he was able to give any in- ıation as to the plans which he had in hand for a general improvement of ventilation in the Houses of Parlia- t, and replied that the problem of ven- ion to those buildings was a most cult one. His officers were examining conjunction with the officials of the onal Physical Laboratory.

'ecent Acquisitions at the National Gallery.

ıother fragment of the altarpiece of Croce, two apostles by Ugolino de a, is now hung in the Vestibule of the onal Gallery. This has been presented through the National Art-Collections Fund by the Right Hon. the Earl of Crawford and Balcarres, P.C. In Room XX. is hung a landscape by Cornelis Vroom, signed 1626. This artist (b. circa 1600, died 1661) is of the generation before J. van Ruisdael. This important picture has been presented by Mr. Robert C. Witt, O.B.E., F.S.A., through the National Art-Collections Fund.

Wages and High Prices.

The National Federation of Building Trade Operatives has passed the following resolution: "That in view of the increase of prices of commodities which in their effects tend to extinguish any benefit intended through increase of wages, this council is of opinion that the time has arrived for some definite action to be taken to deal with the question of high prices. This, in our judgment, can only be effected through national and international agencies, and we hereby request the executive of the Building Trades Federation to approach the Parliamentary Committee of the Trade Union Congress, in conjunction with the Labour Party, to call a special congress to deal with this question."

School of Architecture for Wales.

In connection with the opening of the School of Architecture and Civic Design for Wales and Monmouthshire, which has been established at Cardiff Technical College, a conference has been held at the college under the presidency of Mr. James E. Turner, chairman of the architectural advisory committee. Principal Charles Coles, pointed out that there was no senior school of architecture in Wales at present, and he hoped that students of architecture would avail themselves of the advantages offered by this school. Mr. Ivor P. Jones, as president of the South Wales Institute of Architects, extended a warm welcome to the new institution. Mr. W. S. Purchon, M.A., A.R.I.B.A., who has been appointed lecturer to the school, described the buildings in Cathays Park as being undoubtedly without equal in the British Isles.

The Building Trades Exhibition.

Mr. H. Greville Montgomery, promoter of the Building Trades Exhibitions at Olympia, gave a private luncheon to his many friends on the Friday preceding the closing day. Mr. E. J. Sadgrove referred to the many kindnesses that architects had received at the hands of Mr. Montgomery, and on behalf of all the architects, and especially on behalf of the Society of Architects, tendered thanks to him for the way the Exhibition had been organised. Mr. Montgomery had placed the best rooms in the Olympia at the disposal of the Society for use as a club. Referring to the conference which had been held under the auspices of the Society, Mr. Sadgrove remarked that next year they proposed holding them to a far greater extent. Mr. Montgomery said that he was glad of the opportunity Mr. Sadgrove had given him to thank his friends.

Housing Exhibition at York.

A Housing and Town Planning Exhibition, organised by the Museum and Art Gallery Committee of the York Corporation in connection with the Garden Cities and Town Planning Association, has been opened at York. A series of plans adopted for the future development of many cities in the country are shown, and the lay-out of estates now being developed as garden cities and villages. Among the latter is the New Earswick Village Trust estate near York, and Messrs. Bell Brothers' estate at Haverton Hill, Stockton, in connection with the Port Clarence works. Most of the other illustrations are from the Midlands and South of England, including plans of Government enterprises at Gretna Green and Woolwich, erected for munition workers, and the Government garden suburb at Roe Green, near Hendon. An exhibit of local interest is the approved lay-out plan for York, with a circumferential road round the city, which provides for a bridge over the York and Scarborough Railway near Burton Lane, and a river bridge at Clifton in place of the ferry. Included in this plan is the housing scheme by the Corporation now in progress at Tang Hall, which includes a school site, and a lay-out in Clifton and Bootham Ward for industrial dwellings, factory sites, allotments, and a public park.

Trade and Craft

Electricity and the Motor Car.

The British Thomson-Houston Co., Ltd., of Rugby (makers of the Mazda lamp), have increased their productive capacity to such an extent as to ensure throughout the coming season of pleasure motoring a plentiful supply of British-made electric lamp bulbs.

"Prufit" and Prufitol."

Messrs. Building Products, Ltd., specialists in auxiliaries for concrete structures, of Columbia House, 44-46, King's Road, Sloane Square, S.W.3, have acquired the sole selling rights of Prufit cement waterproofing paste, and Prufitol, liquid waterproofer, as manufactured by Messrs. Rogers, Welch, and Co., Ltd. These specialities will continue to be manufactured by Messrs. Rogers, Welch, and Co., but all sales will be effected through Messrs. Building Products, Ltd.

Pre-Cast Concrete.

The Constructions Rapides (France and Belgique), Ltd., formed by Major G. S. Heathcote, M.V.O., O.B.E., to carry out reconstruction work in the devastated areas of France and Belgium, has formed a subsidiary company called the "C.R." Building Constructions, Ltd., which will specialise in Major Heathcote's previous activities in reinforced concrete and constructional steelwork. The company, whose temporary offices are at 19, Castle Street, Falcon Square, London, E.C.1, are also exploiting the "C.R." system of precast concrete, which applies to the method of pre-casting and assembling.

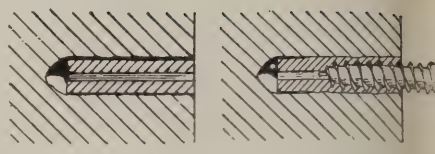
Centralised Heating and Hot-Water Supply.

Many advantages are claimed for the Dargue-Griffiths patent "economic centralised system" of heating and hot-water supply, etc., particulars of which have been sent us by Messrs. Dargue, Griffiths and Co., heating, ventilating, and electrical specialists, of 138-140, Vauxhall Road, Liverpool. The system, which has the approval of the Local Government Board and other Government Departments, is claimed to be equally suitable for new or existing public and other large institutions. When installing the plant, at the generating station (as nearly adjacent as possible to the boilers) are fixed patent multitubular

heaters of the size and power requisite for the work, generally three in number, one for heating, one for hot-water supply, and the third as an auxiliary to either. These heaters are interconnected by collecting trunks, so that in case of emergency either one of them is available for any purpose, and they are arranged and valved to allow each independently to be thrown out of, or put into, action without interfering with the working of the others. In conjunction with the heaters, to accelerate the circulations, are fixed circulation pumps, running at a low speed, and specially designed for dealing with large volumes of hot water. For ordinary working each heater has its own pump, but these also are interconnected, so as to be interchangeable and available for either duty. From the flow connecting trunk are taken the main circulations, making a circuit to the return collecting trunk, off which are taken the subsidiary circulations, they in their turn feeding the loops and radiators. Provision is made for regulating the heat generally from the plant-house, but also all the sections and loops are so valved that any one can be regulated, or shut off and emptied, without interfering with the working of the balance. Where electric power is generated the live steam is used in the engines, and the exhaust steam from same, after passing through a grease separator, is utilised to warm the circulating water in the multitubular heaters, and these, acting as condensers, improve the efficiency of the engines, while the resultant condense water is returned to the hot well at a high temperature for re-feed to the boilers. With this arrangement the company state that a second usage is got out of the steam, heating the water without any additional cost for fuel, and that the condense water is re-used in the boilers. The exhaust steam from the pumps, and other available sources, is also re-used in the heaters. Where there is no large volume of exhaust steam available live steam is used. As there are no long steam mains to depreciate the value of the steam before it is operative, or long condense mains to cool the condense water, the latter is claimed to be delivered back for re-use in the boilers at its highest temperature and practically with no loss of volume. Provision is also made for utilising any exhaust steam available from any minor sources, such as pumps, etc. Among the plants which have been installed under varying conditions in different parts of the country are those at Manchester Royal Infirmary, Seacroft Fever and Infectious Hospital, Leeds; Killingbeck Smallpox Hospital, Camberwell Infirmary, Garlands Asylum, and Essex Second County Asylum at Colchester.

Rawlplugs.

Our attention has been called to an error which has inadvertently been made in the course of the article on "Electrical Equipment," by Mr. S. M. Hills, who incorrectly describes "Rawlplugs" on page 536 of our issue of April 21 as small "wooden" tubes. Rawlplugs, which are manufactured by the Rawlplug Company, Ltd., of Lenthall Place, Gloucester Road, South Kensington, S.W.7, are patent fibre plugs which are used for fixing screws into plaster, brick, concrete, cement, marble, slate, stone, metal, etc. These plugs are adaptable for use in the building, decorating, and plumbing trades, for fixing any kind of electric or gas fittings, wires, cables, pipes, brackets, and general household work, or for fixing anything that is held by a screw. The company claim that Rawlplugs require no skilled handling nor do they damage the surrounding material,

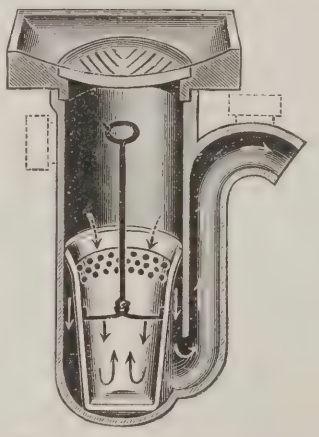


SECTIONS THROUGH "RAWLPLUG."

and that they are invisible when position.

Portland Cement.

Two profusely illustrated pamphlets Portland cement have just been issued the Wouldham Cement Company, Ltd., 35, Great Saint Helens, London, E.C. One of the pamphlets gives an interesti pictorial description of the company method of manufacture, commencing wi a general view of the Lion Works at Gray Essex, which are claimed to have capacity of 4,000 tons per week, and follo ing the operations of the various depar ments from the quarrying of the ra material to the loading and stowing of t finished article. A specially interesti illustration is that of one of the rota kilns, which is 240 ft. long and has diameter of 10 ft. The other pamphl contains a similar selection of views, wi the addition of concise explanatory not dealing with the raw material used, t mixing and grinding of the materials; a the final slurry mixers and storage tank calcining and grinding plants, stora warehouse, cooperage and power plan and the testing laboratory of the compan Particulars are also included of the tes made by experts on actual consignmer of Portland cement, and of the more i portant undertakings upon which the co pany's cement has been used.



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esday, May 12, 1920 Volume LI. No. 1323

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

SIR CHRISTOPHER WREN.

In view of the threat to destroy about a score of the fine old City churches, so many of which were designed by Sir Christopher Wren—he rebuilt fifty churches that had been destroyed by the Great Fire—the architect's portrait assumes topical interest. Wren was born at East Knoyle, Wiltshire, in 1631, and died in 1723. The first stone of his masterpiece, St. Paul's Cathedral, was laid on June 21, 1675, and the last stone was set in 1710.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 14—Window in the Communal Palace, Bologna

Fieravante Fieravanti, Architect

This beautiful window is a fifteenth century addition to a late thirteenth century building—a Renaissance graft on a Gothic stem. The war memorials refer to the Italian struggle for liberty in 1848. The interesting character of the sculpture beneath the sill, and the purpose it fulfils in lending animation to the design, will not escape notice.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Inesday, May 12, 1920 Volume LI. No. 1323

The Art of the Glasspainter

HAT a suitable form of memorial may be found in the painted glass window is evident. It lends itself to such a purpose both by its nature and its position. But it is essential that its re should be understood, and this nature is largely development of its limitations. This is true of all irts; indeed, it may be said that were there no limita- ; there would be no arts. In the case of glass paint- however, it is pre-eminently so.

painted glass window is a translucent mosaic of ired glass, its several portions being held together ead beads, which, being opaque, are rendered the e visible by contrast. The glass is what is known ot-metal; that is, glass, when in the molten state, ired by an admixture of metallic oxides. From the ts of glass so coloured the pieces are cut that build ne design, and not until all these pieces are laid out ieir respective positions does any question of paint e in. When it does, it is not for the purpose of ng to the colour. It is a brown paint, opaque when ly applied to draw in the figures or pattern, and used e thinly it gives proportional obscurity to such ons where shade or a lower tone of colour is inded. The drawing with its shading is fused on to glass, and this is all the paint that will be found upon diæval glass window.

uch of the glass probably came from France, which the start of us in the matter of church building, and uen glass painter, "Master Walter," came over to ork in Exeter Cathedral in 1301. But we find an er man appointed later, and he may have acquired glass from native sources, for a manufacture so table was sure to spring up. Table glass of the eenth century is often described as Bristol or Water- glass simply because these are known to have been -making centres, but there can be no doubt that -making occurred in many other places, particularly lon.

ne colour, as has been stated, is in the glass, and the moreover is of very unequal thickness and of vary- lensities. The result is that the rays of light that through it are hindered here and twisted there, by reaks of refraction. Effects are only partially under ainter's control, and it is just this caprice that gives ass painting its most distinctive character.

ider no possible conditions can it become the of easel or mural painting. It can attempt id it did attempt it in the seventeenth cen- but only by abandoning its first principles, among them being its translucency. And it his by substituting enamelled glass for pot-metal. is, white glass was painted with the requisite el colour, which was denser than the pot-metal r, and so by holding back the light, reflecting it r than transmitting it, it more nearly approached the tions of the easel or mural picture. In fact, as these arts established themselves, the glass painter, for- g his independence, borrowed the aims and methods less circumscribed brethren, a method that reached its culmination in Sir Joshua Reynolds' windows at Oxford. But a window so produced has ceased to be glass painting, and it is distinguished from it by the title of enamel painting. It is made on exactly the same principle as any other bit of decorative enamel, by fusing a vitreous colour on to a backing, whether of glass or metal. This distinction is not always realised. A dictionary may quite possibly define a painted window as one "painted with certain pigments that are fused into the glass," or the statement may be met with, that one of the characteristics of a good window is "good glass with colour well burned into it."

The term *painted* has no doubt proved a misleading one, and *stained* is sometimes preferred. The latter certainly indicates that the colour belongs to the glass and not to an enamel. But painted is the older word—vitrum pictum or depictum, as it is described in Fabric Rolls. Mosaic windows of coloured glass set in patterned alabaster or plaster frames was an old-established method of glazing. "Fenestras vero vitriis coloribus ornavit," refers to a ninth-century window of apparently this description. Painting a pattern or outline on glass was something new to the later glaziers, and glass so treated was likely to receive a distinctive name. When the term stained came in, it is not easy to say with exactitude. The craft of the "steynour" was an old one, and you meet with him in the fourteenth century, but always in relation to cloth and fabrics. Again, we meet also later with the craft of the paper stainer. A preparation of silver chloride discovered in the fourteenth century, by which white glass could be stained yellow, had a wide vogue, and much of the Perpendicular glass is so treated.

The desire for the better lighting of buildings marked by the increasing size of windows, one of the features of architectural development during the Middle Ages, must have told against the painted window. White glass was increasingly employed in combination with the design, and shading was dealt with more transparently, and in many respects these later windows are finer than anything that the art of glass painting has to show. The greys and greens of white glass, natural tints given by impurities which have not been refined out of existence, as improvements in the processes of manufacture tend to do in so many of the arts, are unsurpassed in beauty by the more brilliant colours. But the over-elaboration of detail, the herald of all declines, is prominent.

All the decorative arts in their best period are distinguished by breadth and largeness of style, and this quality is not perhaps recognised by those who advocate the possibilities of portraiture as one of the assets of glass painting, particularly in relation to memorials. This breadth, and the necessity of regarding the composition as a uniform decorative effort, lend themselves neither to those individualities of detail upon which portraiture depends, nor can a single feature of the design be unduly emphasised, without injury to the design as a whole. It is outside the scope of the art.

C. J. T.

Notes and Comments

The Forthcoming R.I.B.A. Elections

AS we said last week, it is of the utmost importance that every member of the R.I.B.A. should record his vote at the forthcoming election of Council and officers of the Institute. It is essential that the Council, when elected, should feel that it is not merely in office, but is also in power. No previous Council has ever been confronted with so arduous a campaign as that which the Council about to be elected must undertake. It is not merely necessary to elect a Council that is individually strong, but it is absoultely essential to have one whose units will pull together as a team. There is only one way in which to secure this internal unity. Obviously we cannot get it by trying experiments with new men. The way to get it is to make up our minds to re-elect the present Council. Let the re-election of the outgoing Council be the common objective. Only thus can we secure a Council with a clear mandate to go full steam ahead with Amalgamation and Registration. Then we shall have a Council possessing important qualifications for the heavy tasks ahead of us. One is that it has acquired experience that would be of the utmost value in the impending negotiations. Another, that the present Council pull together rhythmically, and it would be unwise to introduce new elements that might spoil the combination and disconcert and discourage its leader. On all grounds we very earnestly hope that the present Council will be re-elected almost without exception. At the present critical juncture, extensive changes would be simply disastrous.

Bank of England Rumours

Is the Bank of England about to be rebuilt or not? Positive but unofficial assertions in the affirmative have led to official but much less positive denials. Reading between the lines, one imagines that while the affirmative rumour may have been wrong in the details, it was right on the main issue. In, indeed, the bank is ere long to be rebuilt, as, in spite of the half-hearted denial, we take leave to assume that it will be, architects will be chiefly concerned less for the loss of the present building —which will be serious enough, seeing that it is Sir John Soane's masterpiece (" This great design," as Fergusson says, " was the subject of his lifelong study ")—than for the substitution of a really noble design, worthy alike of the site and the subject. Such a design could be obtained in no other way than by holding a competition open to all architects who are subjects of the British Empire, adjudged by a jury of assessors appointed by the R.I.B.A. Provided the premiums were adequate to the occasion there would be an enormous number of entries in the preliminary competition, from which a selection of a dozen or so would be made for final assessment.

The Building Code

Architects and surveyors do not like the Building Code which has been issued by the Federated Builders. Objections to it have been strongly urged at meetings held respectively by the R.I.B.A. and the Society of Architects, and many architects have expressed to us privately their fears that it would operate prejudicially to the architect. Some have gone the length of declaring that nothing should induce them to set their names to such terms of contract. Our own opinions on the Code are held in reserve, as we wish to see both sides of this extremely important question fully and freely discussed, and therefore feel bound to refrain from saying anything that might be supposed to prejudice the issue. The first of a series of articles on the subject appears on page 621. It opens the case against the new Code, and is frankly an *ex parte* statement. At the conclusion of this series hope to publish a rejoinder from an accredited repr tative of the Federated Builders; but in the mean correspondence from either side will be welcomed. the event, we hope to have rendered a signal servi the practical as well as the professional sides of industry by helping them to an equitable issue. In way their divergencies of opinion can be ascertained reconciled, and we shall be happy to be the mediu agreement.

Dr. Addison's Pathetic Fallacy

We wish to make it clear that our leading artic last week's issue, demanding the instant and com release of the building industry from State control, written in advance of the annual general meeting o R.I.B.A., and in every way independently of it. rather pride ourselves on the general policy of com Independence and strict impartiality of which th but a single example. We do not support any p simply because it is put forward by the Institute, o any other professional body. To win our advoca must appeal to our judgment as a good policy and a If, for instance, the Institute took at any time wha believed to be a wrong course, we should not hesita speak our minds about it. Our duty is not to say to the Institute, or to any other organisation, bu advocate what we conceive to be the best interests o Profession at large. We are not the Instit Journal, nor the Society's Journal, but we are " Architects' Journal," striving always to hold balance level between all sections. It is with much of independence, therefore, as of whole-hea ness that we welcome the Institute's resolution, pass its annual general meeting, to organise a strong pr against the ban on luxury building. The case ag this most capricious and altogether mischievous e ment is restated on page 605, and in our correspond columns there are several letters in which business of high standing emphasize the national dangers may result from persistence in this pathetic fallacy.

Threatened City Churches

Very naturally, the proposal to demolish nine City churches has provoked a storm of indignant pr But in making so drastic a recommendation the Bi of London's committee must have been powerfully enced by the facts which they were appointed to inv gate. These facts are—That the Church is sadly in ne funds; that the City churches are too numerous fo churchgoing population within their area; and tha sites they occupy could be sold for a good round being commercially so valuable that business men w eagerly compete for them. Such stubborn material cannot be lightly dismissed, and unfortunately the more tangible than those that can be adduced on other side of the argument. It is of little use, we to tell the "hard-headed City man" that these fin churches enshrine much of the City's history, and, their fellows that are as yet unscheduled but, by imp tion, are not unmenaced, embody its chief clai beauty and to distinctive character. Whatsover de of charm London can be said to possess it owes al entirely to its churches, which preserve for us "the te grace of a day that is dead." Where they happe have been designed by Wren and to contain the ha work of Grinling Gibbons, their destruction would sheer wickedness, which no extremity of impecuni could possibly justify. We do not believe that Church will sanction such an outrage, and we feel confident that Parliament will not.

Hands Off the Building Industry!

O restrict so-called luxury building is to bring the profession face to face again with what is virtually a threat of extinction. During the war, the profession suffered and sacrificed ingly, admitting that there was strong reason for embargo then placed on building. Not easily will e forgotten with what cheerful resignation the prac- ng architects in those early days, and, indeed, ughout the lean years which followed, made their interests entirely subservient to the needs of the ntry. The public need was manifest, and though es of architects—with their means of livelihood s taken from them—were hard put to it to eke out are existence, they resolutely faced the situation, uncomplainingly made sacrifices the like of which, pily, few sections of the community were called upon ndure.

nd when, in course of time, the advent of the ional housing scheme seemed to justify the hope of e measure of prosperity, further disappointment se as a result of the paralysing effect of the famine abour, material, and means of transport. The at project of housing the masses throughout the l came to a standstill—or, rather, it never really ted. Public confidence, which once ran so high, n sank to zero, and the criticism to which the ernment was subjected drove them to embark on a iety of palliative expedients by the application of ch it was hoped and expected that the immense chine would once more be set in motion.

t is now seriously argued by the Ministry of Health t the suspension of luxury building will free nearly icient labour to carry out the numerous housing emes throughout the country. In the opinion of se whose experience of the building industry is at st as wide as that of Dr. Addison, this much- ired result is by no means a foregone conclusion n the Minister's premises.

The arguments employed in justification of this stic step of diverting all the energy into one narrow nnel are put forward in all good faith, and at the t glance there may seem to be some logic in the con- tion that the suppression of any particular class or sses of building activity must set free a correspond- amount of labour and render it available for ther. Indeed, it is just this superficial view of the tter—this magnificently fallacious assumption— ich constitutes the chief danger underlying the situa- n. What more reasonable, suggests the Ministry, n that the shutting down of all work relating to atres, cinemas, and shops—officially dubbed uxury" building—will automatically liberate usands of operatives for work on housing?

t is worth while examining this point of view a little sely, if a correct conclusion is to be reached. Any ntractor of experience will agree that out of a hun- d men engaged, for example, on the rebuilding of West End drapery establishment, about forty only uld be at all suitable for employment on such simple cass work as is required for erecting dwellings for people. The remaining sixty belong to those her grades of operatives who include skilled sons, joiners, cabinet-makers, art-metal workers, d other specially qualified men, whose superior quali- ations and expert training would be entirely thrown ay on plain every-day construction.

What is to become of these men? Advocates of the licy now threatened suggest that they would become sorbed and be distributed among the competing ns of the metropolis, and this, in regard to so small number, is probably true.

But if the ratio presented by these figures be applied to vastly increased numbers of men thus set free, there must come a time when this absorption will cease to operate.

If, for the sake of illustrating the point, we assume that four thousand bricklayers and an equal number of carpenters are considered sufficient to grapple successfully with housing in the London area, and that the suspension of luxury building can secure their immediate release, it becomes at once apparent that their diversion into the desired channels can only be attained by the costly process of throwing another twelve thousand men out of employment.

Even were it possible to count on the effective energy of all the men thus released from buildings of a non-utilitarian character becoming available for national housing needs, there remains the question of how these operatives are to be induced to leave their urban homes and work in rural districts where they cannot be accommodated with living quarters.

It is a grimly comic situation: How shall the housers be housed? It is very obvious that considerations such as these have not been allowed sufficient weight by the Health Minister, who, on reflecting more intensively on the matter, and after due consideration, in consultation with "the men who know, will see, surely, that the proposed ban on luxury building is a policy that, being based on a fundamental misconception of the effective data, is fraught with disastrous possibilities."

Much could be written on the unwisdom of leaving the interpretation of the word "luxury" to the local authorities. One man's luxury is another man's necessity. While opinions are likely to vary very considerably on the point, there is every probability that much hardship will be inflicted by arbitrary and unimaginative decisions. To classify a bank extension as a needless piece of work, to take an instance, is to deal a blow at the commercial prosperity of the district which demands increased accommodation for its bank.

We are by no means sure, either, that it could not be successfully urged—as a well-known labour leader was recently heard to do—that cinema theatres are a social necessity, and as such ought not to be included in the class of luxury buildings.

We have consulted many eminent firms of building contractors as to the probable effects of continued restrictions on building, and, almost without exception, they are emphatic in condemning the continuance of State control. They believe that it will defeat the very object that it is intended to serve—namely, the acceleration of housing—because, as the President of the Institute has shown with great clearness and cogency, control of the industry prevents its normal development, and must sooner or later result in cataclysmic disturbance all round.

Upon the attitude of the trade unions in this matter we can only, at the moment, touch very lightly. It is not easy to understand what they are at. Their pronouncements on the question are a jumble of conflicting views. At the same time that they are clamouring for houses and for the stoppage of all "luxury"—that is, non-housing—building, they are raising strong objections to the infringement of their mystic "demarcation" rules, which forbid the men of one union doing work of which other unions claim the monopoly.

In our correspondence pages we print a budget of opinions obtained from various contractors or sub-contractors, most of whom, while sympathising with the desire of the Government to expedite the housing movement, recognise that the need for houses is not more of a national necessity than due provision for the expansion of trade by extending manufacturing and warehouse construction.

The Week's News

Graves of the Fallen

The House of Commons have passed a vote for £991,000 for the Imperial War Graves Commission. Approval was thus given to the uniform plan of the British war cemeteries in France.

British Society of Master Glasspainters

Mr. A. Marriott Powell having consented to act as honorary treasurer of the above Society, members should send their subscriptions to him at the Whitefriars Glass Works, Tudor Street, London, E.C.4, or to Messrs. Lloyds Bank, Law Courts Branch, 222, Strand, London, W.C.2.

Light Castings Inquiry

The Board of Trade announce that a committee has been appointed under the Profiteering Act to ascertain to what extent supplies, prices, and costs of light castings in this country are affected by trade combinations, and, further, to ascertain to what extent the manufacture of light castings is affected by trade combinations.

Labour Shortage

Dr. Addison, Minister of Health, has stated in the House of Commons that the construction of houses had been gravely delayed by shortage of labour. The shortage of skilled building labour notified during last week was 8.378. He understood that the trade unions concerned were not prepared to assent at present to the employment of ex-Service men in their trades who were not formerly apprentices, except in cases of a certain percentage of disabled men.

Dagenham Housing

The London County Council have decided to support the application of Barking Town Urban District Council to Essex County Council for an order for the inclusion in the district of the portion of the parish of Dagenham south of the Great Eastern Railway, and of the portion of the L.C.C. housing estate within the Ilford urban district. The object of the step is to facilitate the speedy development of the Council's Dagenham housing site, which will provide accommodation for 120,000 persons.

Houses Worth Building?

The London branches of the National Federation of Building Trade Operatives are to be asked to endorse a proposal to establish a London Building Guild (an organisation of the men which will carry out housing schemes by direct labour without the co-operation of employers). The London Council of the Federation will make an immediate inspection of metropolitan housing schemes, "to decide whether the proposed houses are actually worth building and suitable for the population."

R.I.B.A. Reception

The President has suggested that the R.I.B.A. should take occasion to entertain and welcome home its members who have returned after serving in H.M. Forces during the war. The proposal is cordially supported by the Council, and, in view of the large number concerned, they have decided to hold a reception and garden-party at the Zoological Gardens on the day following the first anniversary of the signing of peace (June 29 next). Tickets will be issued to each Member and Licentiate (with a lady) on application to the R.I.B.A. secretary.

Luxury Building

At the annual general meeting of the R.I.B.A., held Monday, May 3, it was resolved, on the motion of Mr. Delissa Joseph, seconded by Mr. Herbert W. Wills, "That the Council be requested to call a public meeting of architects, surveyors, builders, operatives, property owners, and members of allied societies and other bodies interested, to protest against the present method of applying luxury clauses of the Housing Act, and with the vi of sending a delegation to the Prime Minister to po out the national danger involved in such applicatior A résumé of the annual report submitted to the meeti will be found on page 625.

Weekly Housing Report

New housing schemes submitted to the Ministry duri the week ended May 1 numbered 107. The total numl of schemes submitted by local authorities and pub utility societies is now 9,821, comprising about 68,0 acres. The schemes approved now number 6,041 a comprise about 47,000 acres. Seventy lay-out schem were submitted and sixty-four approved during the wee bringing the total number of lay-outs submitted to 3,8 and the number approved to 3,250. House-plans rep senting 2,204 houses were submitted during the wee and plans for 2,836 houses approved. The total numb of houses represented in all the plans now submitted 188,113 and in the plans approved 176,199. During t week tenders were submitted for 1,773 houses. Tende for 2,198 were approved, bringing the total number houses in tenders submitted to 106,639 and in tende approved to 94,604.

Converted Timber

Mr. Alan E. Munby, chairman of the Science Standir Committee of the R.I.B.A., has sent us a communic tion in which he draws attention to the prevalent defec which arise in converted timber due to the depredatior of boring insects. He says: "Cases have come to noti in which panelling and like work has become riddle with holes in a couple of years owing to these ravage which occasionally cause serious defects in constructior work also. My committee, with the assistance of D Gahan, of the Natural History Museum, are anxious t investigate this subject, and will be grateful for an specimens of such defective wood with as much informa tion as possible as to its location and history. It is hope that by this co-operation on the part of your reader investigations may lead to the publication of a mono graph upon the best means for preventing these attack and of treating wood suffering from incipient defects o this character. Specimens should be addressed to th Hon. Secretaries, Science Committee, 9, Conduit Street Regent Street, W."

Special Methods of Construction

Contracts had been placed, at April 30, in fifty-fiv districts of local authorities for the erection of 7,12 houses by special methods of construction which hav been approved by the Ministry. Contracts for the build ing of 2,753 other houses are being arranged, and th adoption of the special approved methods is under con sideration in these and other districts for the erection o about 22,000 more houses. Concrete is the basis of mos of the special methods, including various forms of bloc and slab, "in situ," and reinforced concrete construction Special features of other approved methods include stee framing, timber framing, the use of terra-cotta blocks clay lumps, and pisé de terre. Among the district which have adopted special methods of construction are Liverpool (2,516 houses), Leeds (740 houses), Romford Rural (366 houses), and Deptford (238 houses) Specimen houses are to be built at eleven suitable centres in order that representatives of local authorities and others interested may conveniently inspect houses built by special methods of construction. Nine firms have agreed to erect specimen houses, and negotiations are proceeding with other firms. The local authorities of the districts in which the specimen houses are to be built will, if they approve of the tenders, take over the houses to form part of their housing schemes.

Cosy interiors, fitted and furnished with exquisite taste, wherein the architect may in comfort pursue his studies, receive his clients, or entertain his friends, are more common in America than in this country: where, however, as this plate shows, exquisite examples are occasionally to be found.

. Victor Laloux: The Man and His Work.

2.—The Practitioner

By H. BARTLE COX, A.R.I.B.A., Ancien Elève, Atelier Laloux

ıted Works—Membre de l'Institut—Official Appointments

France, as in England, any man can pose as an architect provided he can find clients. However, the artistic training of the Beaux-Arts is so well esteemed by the nation that few architects have an tant practice who have not the Government na. The diploma in itself is no guarantee of any artistic capacity, but it is a proof of a certain train- .nd establishes a minimum standard for public ence.

: organisation of matters connected with the arts, er sculpture, painting, engraving, music, or archi- e, is to a large extent public in France, and forms a

HOTEL DE VILLE, ROUBAIX: MAIN FRONT. V. LALOUX, MEMBRE DE L'INSTITUT.

r part of the life of the people than in perhaps any :ountry.

n an artistic point of view, a winner of the First Prix de Rome is universally felt to be a man of nents; and, despite any influence he might have .th members of the jury, yet he can scarcely under nsideration be considered a mere parvenu.

rand Prix winner is automatically Diplomé par le rnement, but is naturally more esteemed than a)iplomé. Both, however, are justly recognised as e civic decorations.

Monumental

sieur Laloux's first commissioned work of any :ude was the construction upon an old foundation Basilique St. Martin at Tours, a much admired g in a modern Romano-Byzantine style, influenced by his studies at Torcello. After this followed ry suitably designed Railway Station at Tours will be illustrated next week), then the Hotel de ı the same city (page 557 of our issue for April page 611 of the present issue).

Paris has been adorned by one of M. Laloux's most important civic monuments—the magnificent Gare d'Orléans and Hôtel Terminus, presenting a strikingly bold façade on the Quai d'Orsay. From the interior of this station architects will notice the influence of the study of the Roman thermæ.

Next in order of executed works come the Hôtel de Ville at Roubaix, and the Bourse de Commerce of the same town. Then the enlargement to the premises of the head office of the Crédit Lyonnais, rue 4 Septembre, Paris, in collaboration with M. Narjoux.

Domestic

Of residential buildings M. Laloux designed the Château de Sancourt in the Somme, built in a Louis XVIth style by client's wishes. A villa in the Italian Mediterranean style on the Promenade de la Croisette at Cannes; the restoration of the feudal castle of Courtanvaux.

Miscellaneous

M. Laloux has often been asked to design things other than buildings; for examples: the tomb of Cardinal Maignan at Tours, and several tombs in the cemetery of the same town; a stele in the cemetery of Père-Lachaise, Paris, to the painter Heilbute.

Commercial

It is said that a business man in France is often afraid to employ a Grand Prix architect lest his building should cost too much through profusion of ornament; but this is not the case when the architect is known to be a man of good common sense. M. Laloux has built two large blocks of business premises of apartment houses which are of considerable importance architecturally as prototypes of restrained work. One is in the rue Croix des Petits Champs, the other in the Avenue Bosquet, both in Paris. This latter, built more than thirty years ago, had

a great influence upon apartment houses. It is treated very plainly, yet very suitably, for a commercial structure in stone; at that time the building was regarded as a decided innovation, for it was then customary to treat stone in a manner more suitable to marble, the fashion emanating from a study of Italian work. M. Laloux handled his problem in a more modern spirit, and it is admitted that his example has been greatly imitated and developed since.

Personal Views

M. Laloux is no admirer of modern archæological architecture, nor of the designing of buildings in the so-called styles, except for restoration work, or when an historical style is demanded by the client. He believes in the handling of composition in a modern spirit, giving to it a living character and adapting the architecture entirely to the requirements of the programme.

With reference to the future, he considers that, as the architect is the agent of his client, architecture will find itself as the natural expression of the times.

Foreign Recognition

M. Laloux is "Architecte-Conseil de l'Equitable des Etats Unis" and Corresponding Member of the American Architectural Society.

Upon his visit to England, when made a Corresponding Member of the Royal Institute of British Architects, he was particularly impressed with the English country house. In 1914, just before the war, he was delighted with the Exposition Anglo-Française d'Architecture held in Paris.

French Distinctions

In 1883 M. Laloux was awarded a medal at the Salon des Artistes Français for a restoration of the Temple of Venus and Rome. In 1885 he was married at Paris; in the same year obtained the Medal of Honour for the Restoration of Olympia. This is the highest distinction obtainable at the Salon, and puts its recipients "Hors de Concours."

For three successive years, 1910-11-12, he was President of the Société des Artistes Français—a great distinction, showing the French artists' attitude towards architecture and their regard for M. Laloux's sympathy for the sister arts. To this position he was again elected in 1920. He was awarded a gold medal at of the International Exhibitions at Paris, 1889 and 1

He was one of the founders in 1877 of the Société Architectes Diplômés par le Gouvernement, membe the Committee, 1901, President of the Society 1894 and in 1903. He became a member of the So Centrale des Architectes in 1891, Council Membe 1912, and President in 1914.

In 1909 he was elected in the place of M. Norm (architect) among "Les Immortels" as Membre l'Institut—the highest distinction from learned bo conferred upon artists in France.*

He has successively been elected Chevalier, Offi and in 1912 Commandeur de la Légion d'Honneur.†

Official Appointments

He formerly held under the State the positior "Architecte en Chef du Gouvernement," which ass the maintenance of the Palais de Justice at Paris. now holds the highest position given by the Govern to architects, viz., "Inspecteur Général des Bâtin Civils et Palais Nationaux,"‡ in which capacity, ar other things, he has made reports of the Fr Embassies at Berlin, Vienna, Petrograd. He is Membre de la Commission des Monuments Histori Membre du Conseil Général des Bâtiments C Membre du Conseil Supérieur des Beaux-Arts, and Président des Juries d'Architecture de l'Ecole Beaux-Arts.

HOTEL DE VILLE, ROUBAIX: THE SALLE PIERRE. V. LALOUX, MEMBRE DE L'INSTITUT, ARCHITECT.

(To be continued.)

* The most illustrious of Academies, the Institut de France, was f at Paris in 1795. At the present time it includes five Academies as fo Académie Française with 40 members; Académie des Inscriptions et Lettres with 40 members; Académie des Sciences with 68 members; Ac des Beaux-Arts with 41 members (only eight architects); Académ Sciences, Morales et Politiques with 40 members; making a total Membres de l'Institut, apart from Membres Libres, Associés Etranger Correspondants.

† The order of La Légion d'Honneur was instituted by Republican 1802, by the First Consul Bonaparte to reward military and civil se At the present time the President of the Republic is the Chief Soverei Grand Master.

There are 31,048 Military and 18,188 Civil Members, including Che Officiers, Commandeurs, Grands Officiers, Grands Croix.

Out of 1,142 of whom are Commandeurs only three are architects: Nénot, Laloux.

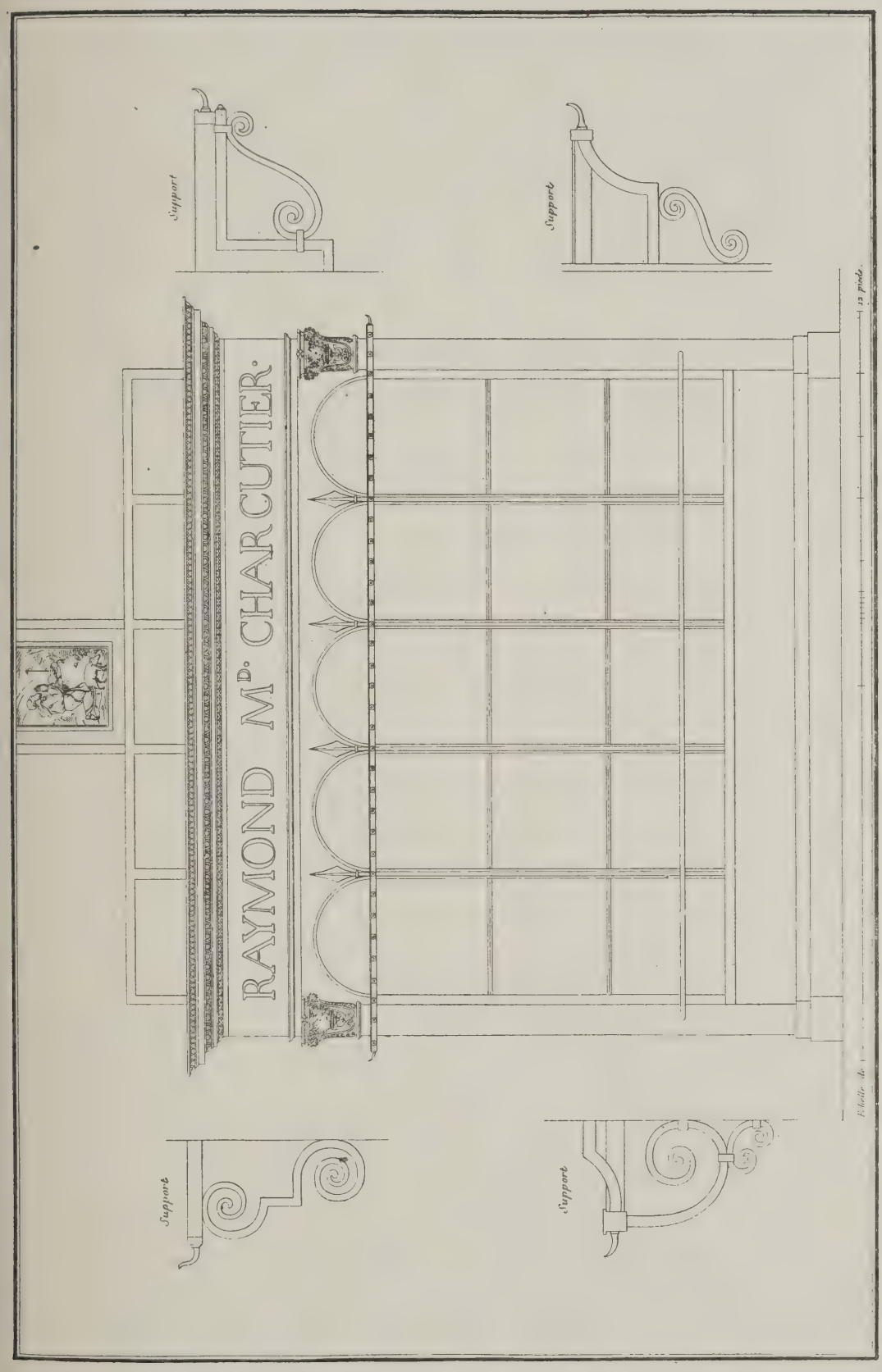
‡ France being divided for this purpose into four regions, there ar three other architects, Pascal, Nénot, Girault, holding the same offic

Modern French Architecture. 2.—Vestibule, Hôtel de Ville, Tours

Victor Laloux, Membre de l'Institut, Architect

Photo: Peigné, Tours.

Massive strength, powerfully controlled, is here the keynote; the huge masses being relieved with appropriately strong and bold decorative devices.



One does not expect much refinement in the design of a pork-butcher's shop, but this one certainly combines simplicity with elegance; and these characteristics should be imitated where a similar purpose is to be served in English towns.

The Royal Academy Exhibition.—2

HERE is not the smallest doubt that this year's Royal Academy Exhibition is very popular. Crowds of persons are visiting it daily, and seem to be keenly interested in the pictures and statuary. Popularity, one is very well aware, is no e criterion of artistic merit, more especially when the t is applied to a single picture. Often when the raction can be traced to a single picture or group of tuary, around which the uncritical crowds gather and pe, that particular object of attention turns out to be most inartistic thing in the show. It draws because its blatancy or its sloppy sentiment, as the case may ; or because it tells a story, or asks a conundrum, that s the throng agog to know whether it was the lady or tiger that emerged, or who was the cheat at cards, what was the nature of the confession that she was king under cover of the waning twilight.

This year there is no *ad captandum* trickery observ- ie. There is, indeed, no picture or statue that mours, either on genuine or on merely meretricious unds, for special attention either from the critical or uncritical beholder. Whether there is any exhibit, her on canvas or in stone, that the trustees of the antrey Bequest could select without the slightest sitation may be a moot point; but we are inclined to nk that, at all events with respect to the paintings, vould arise not from a dearth of merit, but from an barrassment of riches. In our opinion this year's ademy reaches high-water mark: an equally high level merit has not been attained during the past seven rs. Veterans are seen at their best, and a younger neration of greater promise has been seen seldom or er. Indeed, the exhibition is of very hopeful gury, the more so since it is singularly free from fads, hions, frivolities, tendencies. There is in it more ependence and virility than we can remember to have n at this exhibition. Nearly every picture is sane and ong. Even the ineffable washed-out "die away in a gy grey" school seems to have died out—to have en ousted by the positive brush loaded with vivid ment. In some instances, indeed, the paint has been l on with a trowel, or, to speak quite literally, with a tula.

As usual, there is an enormous number of portraits; d, speaking generally, they show an extraordinarily h degree of accomplishment. Whether and to what ent a portrait painter should idealise his subjects is an question, and one that, being purely a matter of nion, can never be settled. Most of the portraits at s exhibition show the safe middle course. As a rule, y are evidently faithful likenesses without being ral. Unlike the camera, the painter sees something the effect of the subject's soul on the features. In traiture, no less than in other kinds of painting, "Art Nature seen through a temperament"; nay, in por- ture we get the effect of two temperaments, reacting one on the other.

Among the many fine portraits shown, the most eresting is surely that of Mr. H. F. Dickens, K.C., Common Serjeant. It makes a threefold appeal— intrinsically, it is a splendid example of how a por- t should be painted; (b) its subject grips us not only ause Mr. Dickens is the son of his father; but also because we remember that some fifty years ago Sir ke Fildes drew that poignant picture of "The Empty air" at Gad's Hill Place. Sir Luke has in all half a en masterly portraits on view, each showing unerring ight and unfaltering hand. One of the most charm- portraits in the exhibition is that of Mrs. Luke V. des. Unless we are much mistaken, Sir Luke's endid achievement in portraiture is a comparatively development of his strong and beautiful art. But his eminence in it was clearly foreshadowed in his fine figure subjects, such as "The Widower," "The Village Wed- ding," and, above all, in the fine portraiture in "The Doctor." Certainly the present exhibition would of itself give him high rank as a portraitist.

Sir William Orpen has, of course, some masterly half- lengths, but his portraits in the Peace Conference pictures lean slightly towards caricature—or perhaps it were more just to say that in some instances the charac- teristic features are slightly over-emphasised. We feel also that the figures are unduly dwarfed to get in the very elaborately painted background. It is very finely done, but half of it would have been more than enough. It is the men that matter, and they should have been done to a more dignified scale.

Sir William Llewellyn, the newly elected R.A., has among his half-dozen contributions one that no architect would willingly miss—the fine portrait of Mr. Henry T. Hare, Past-President, painted for the Institute.

Sargent we miss; but Shannon, Lavery, Strang, Dicksee, Salisbury, W. W. Russell, Richard Jack, Melton Fisher. Stanhope Forbes, and many ladies, con- tribute, between them, an unusually magnificent array of portraits; and the contributions in this sort bearing the name of Arthur Hacker are a pathetic reminder of how great a portrait painter we lost when he died with such painful suddenness.

The statuary includes busts galore, and these, without exception, are cleverly modelled, and carry conviction of their truth as portraits. It is quite natural that this class of work should predominate. It is the work that pays best. Nor is that the only ad- vantage it offers. It is a splendid exercise in close observation and careful modelling. On the other side of the account, one has to confess to a feeling of sadness that many of those who willingly pay to have their portraits taken, whether in clay or on canvas, could never, but for this concession to vanity, be induced to spend a single guinea on art. Another disadvantage is that portraiture too easily exalts literalism at the ex- pense of imaginative conception. Nevertheless, your true artist will find full scope for the exercise of his higher faculties in the interpretation of character—in making his subjects' souls shine forth from the clay.

It is pleasant to note the presence of a few delightful garden ornaments cast in lead. Miss Phœbe Stabler's "Figure for a Garden," that of a little girl (or is it a pixie?) with a roguish face and laden with samples of "the kindly fruits of the earth" is specially charming. By the way, the sculpture rooms have been this year invaded in force by the ladies, who show many excellent works—chiefly busts and statuettes.

It is doubtful whether in the statuary rooms it would be possible to find a dozen purely architectural works. Sir Goscombe John shows a few groups—"Infantry" and "Anti-Aircraft," and two separate groups of "Children with Wreaths"—that form part of his Port Sunlight war memorial. There are also several memorial plaques; an altar cross; a statuette of Archbishop Benson for a niche in St. Mark's, Salisbury; a model of the marble bust of the Prince of Wales to be presented to the Corporation of the City of London; and Henry Pegram's design for two great external candelabra for a cathedral which the sculptor offers as a suggestion for a war memorial. There may be some few other exhibits of architectural relevancy; but we should like to see more convincing evidence that the sculptor and the architect are co-opera- ting for the adornment of buildings. That they are not doing so is one of the many baleful results of State inter- ference with so-called "luxury buildings."

(To be continued.)

Architectural Causerie: On Transport

THIS week's gossip attempts to pick up the threads of many past conversations; the main theme being ancient and modern methods of transport—by road, rail, and canal. Some time since, the discourse centred upon the subject of road-books. This was followed by anecdotes of the canal builders and their glorious works; and as each branch bears upon the subject of building, it shall be my task this spring weather to correlate all three subjects. Wherefore, once again let us speak of the year 1796, when a clever piracy of Paterson's book of the roads was made by Cary, who had been engaged by the Post Office authorities to check the admeasurements of the principal highways. This book enjoyed a large circulation, and its issue led to an action; but the unfortunate proprietors of Paterson's work, although they won their case, were fobbed off with a shilling for damages.

* * *

Three old volumes dealing with the English roads lie on my desk. Contemplating them, one conjures up a long dusty road, free from the upstart posts and sagging wires of the telegraph. Slowly a strange cavalcade passes. There is the lumbering private coach of the seventeenth century, lined outside with leather. A gentleman of Pepysian visage looks from the door. Following comes the York and London machine, with a full basket at the tail; then a team of shapely pack-horses, with a few foot-passengers travelling together for safety. After a while comes a smart travelling carriage, bearing a newly elected Member of Parliament, with his lady and two servants, rushing up from a pocket borough to St. Stephen's, with all sorts of band-boxes on the roof. How contemptuous seem the occupants of this turnout as they glance at the slow broad-wheeled stage waggon with its load of third-class passengers! They scarcely deigned to notice the couple in the hired post-chaise who have just passed on the way to Gretna. The hooded Perch phaëton, built by Mr. Felton in 1790, travels lightly on the crown of the road, followed by Mr. Palmer's improved safety mail coach, with patent reading-lamp for the benefit of inside passengers. Then the smart doctor in his gig, and the sporting butcher in his cart. But, stay—who is this elegant gentleman in a private carriage, who appears to be working at a sketch? It is, if you would know, none other than Mr. James Wyatt, the fashionable architect of the day, attending to his enormous practice as he travels from one job to another; and that young man at his side is his favourite assistant. Poor Wyatt! little does he know that he is to meet his death in that selfsame carriage. And now for the forerunner of the motor-car, the clanking Infernal Defiance, that sheds nuts and bolts as it advances, tears to pieces the surface of Telford's fashioning, and deposits cinders to mark its course. Fourteen hours to Bath, sir, without horses! Shades of Mother Shipton! the world's doomed!

* * *

During the greater part of the Victorian age, the vast majority of the lieges deserted the highways of England, the fine old coaching inns were left derelict, the four-posters no longer received the tired traveller, although a few enthusiasts from the Universities tramped the country with a copy of Horace in their pockets. With the age of the motor-car came the revival of the road-book. Ogilby, Paterson, Cary, and Leigh were copied anew, the old measurements being taken for granted. With the return of the road to its popularity, perhaps the future will see a revival of the pleasant custom of recording the architectural works that are near to the great highways; for as things are at present we are often at a loss to know what's what as we dash by the great houses.

Of canal travelling there are but few and scan annals. It is on record that passenger boats travers the artificial waterways in the times prior to the snortin of the iron horse, and that our great grandfathers mad frequent use of this method of travelling from Paddin ton Basin to Braunston, Coventry, Birmingham, an other places in the distant Midlands.

* * *

When in Dublin a week or two since, one was stru with admiration for the aspect of the canals. They a veritable additions to the amenities of the Irish Capit —attractions of the first order. There are two canals Dublin, the Grand and the Royal; both are lined wi trees and have broad towing-paths. Both are spann with graceful bridges of stone. The Royal Canal go from the north bank of the Liffey to the Shannon, joi ing the latter near to Tarmonbury, taking on its cour Lucan, where Gandon resided, Leixlip, Carton, Kilcoo Mullingar, and other towns. The Grand Canal ru from the south bank of the Liffey, past Portobello join the main trunk near classic Kilmainham, whence also runs west, with branches to various places. T Grand Canal is a quarter of a century older than t Royal, the original company being formed in 1765, wi a capital of two hundred thousand pounds. Its banks ne to the once fashionable southern quarter of Dublin a noted for the splendid elms; it is pleasant to see t barges laden with peat for consumption in the city, an to imagine these modern boats to be lineal descendan of the old Fly or passenger boats. Judging from t design of the bridges, an architect engineer of no mea capacity must have been employed to hold the penc The elliptical panel in the parapet wall of all the bridg bears the magic date 1791, a time when the activities the company were at their height. The bridges ther selves bear the names of the then directors; for instanc Macartney, Eustace, Charlemont, Latouche, etc.

* * *

In 1791 everyone in Ireland took an interest in arch tecture or civil engineering, especially the poor, wh earned their livelihood during hard times working these schemes. Let us take our place at six o'clock the morning on May 19, 1791, for a passage Monasterevan, which place we hope to reach at fo o'clock in the afternoon. There is a later boat at seve o'clock, but to avoid the crowd we have selected t earlier one, and have been to great pains to impress the landlord of the Grand Canal Hotel at Portobello wake us. We have paid five shillings and five pen each for our places in the first cabin, and look wi disdain on the second-class passengers, who only pa two shillings and eightpence halfpenny, the equivale of exchange in those days being one shilling a stage fir class and sixpence a stage second class. We breakfa on board and pay eightpence for the privilege. Not bad breakfast: cold bacon, bread and butter, pickl walnuts, and a glass of stout. Dinner comes at o o'clock, and costs the enormous sum of one shilling an sevenpence halfpenny. We have had enough of o excursion into the eighteenth century, when we are loo ing at the neat design of the Portobello Hotel, whi stands unaltered, and musing on the enjoyment of tho who preferred the smooth motion of the Fly boat to t insecurity of the horsed mail.

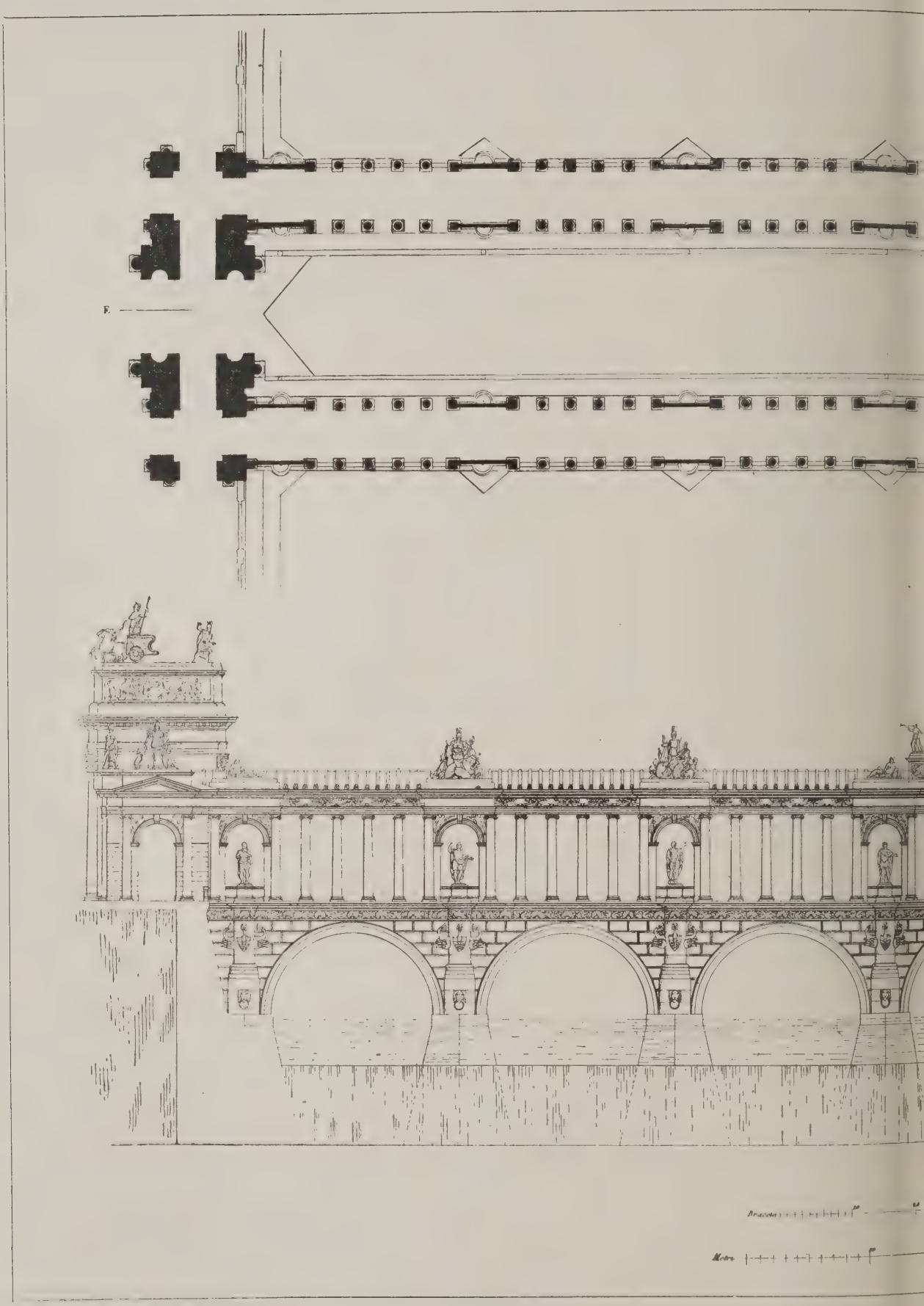
* * *

There can be no doubt at all that Dublin owes son part of its preservation from congestion, or rather, l us say, the bad effect of indiscriminate building of speculative nature to the existence of these pleasant ol world canals, which even to-day prove useful to t needs of the Irish people.

AERO.

Monumental Architecture.

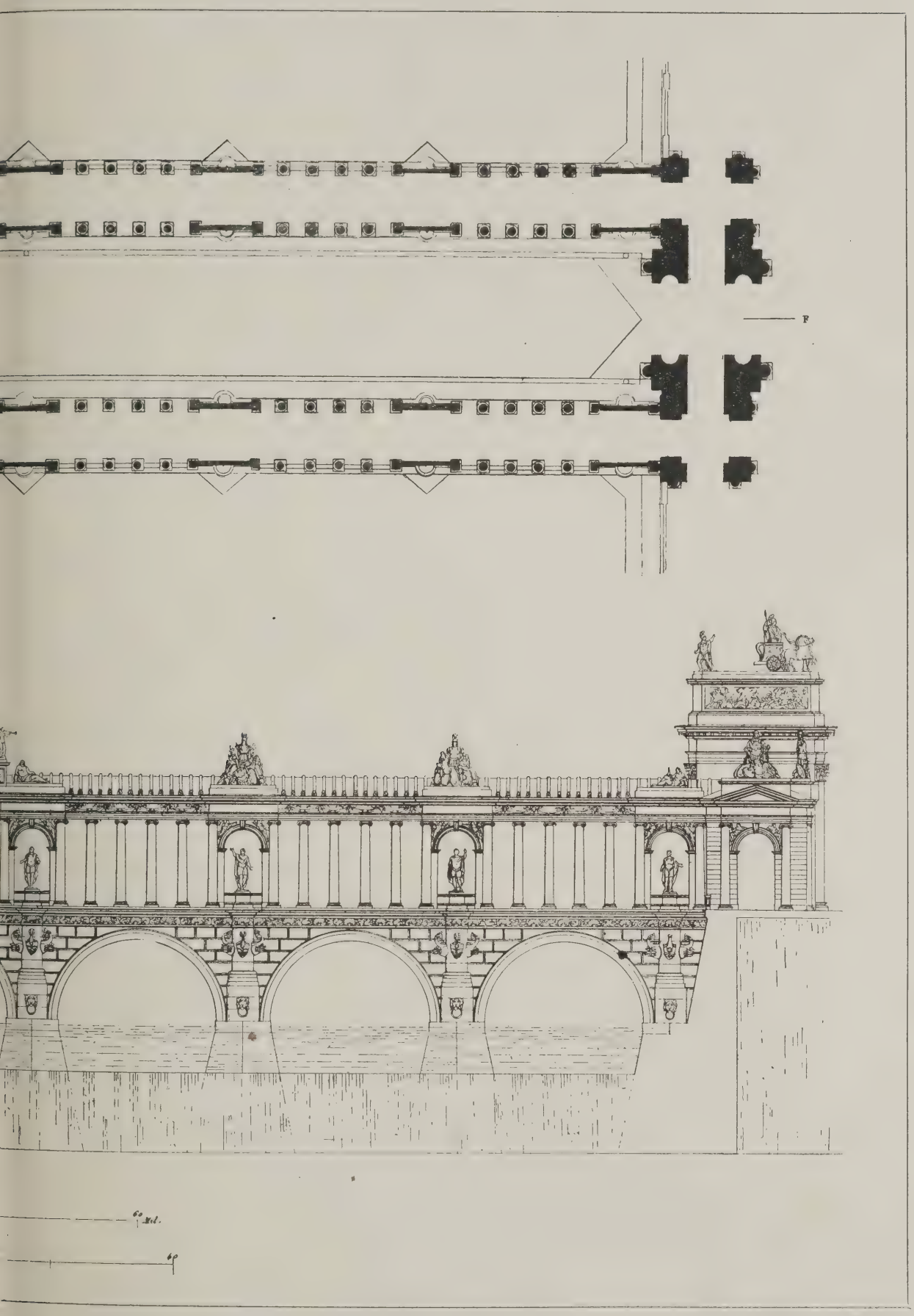
Luigi



This is the first premiated design in the 1814 competition of the series conducted by the
width according to the requirements of the situation to which the plans might be adapte
and the winning competitor submitted alternative designs : the design for a covered brid
which might with advantage be a

ct for a Triumphal Bridge

chitect



ne Arts. The conditions were that the bridge should be 125 metres long, and of ere to bear appropriate monuments. The bridge was to be covered or uncovered, as revealing the decorative opportunities afforded by this rarer and nobler form, ew bridges over the Thames.

The Federated Builders' Code

Why Architects and Surveyors Object to It

By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

N July 1, 1920, the National Building Code for England and Wales will come into operation automati-, unless the Federated Builders alter minds about it. If they persist with e immediate effect will be a volcanic tion in the building and allied trades.

t me be quite frank about it. For years past the professional side and practical side—the architect and sur- r on the one hand, and the building ractor on the other—in the building in- y have been unhealthily mutually dis- ful, the one side suspecting the other ndue self-interest. The relationship een the parties has been tinged with ial jealousies. Not without its signi- ce is the miserably paltry symbolism e silk hat and the bowler; the former supposed to distinguish the profes- l man, the latter the practical builder. t absolutely childish rubbish! Can- he professional man and the practical respect each other's position and evements without accentuating the rence and parading it in public in this way? What savage fetishism.

d whilst the architect and the con- or have been devoting their great ls to these ridiculous questions of ette, ritual, status—call this solemn ng what you will—outsiders have been hing on their domain.

Direct Labour

t me express this in concrete form. tary science has been developed in- ndently of the architect or builder; ise steel construction and reinforced rete construction, with the result that , and a host of other things, are now st outside the sphere of operations of architect and the general contractor. over, and partly for this reason, ic authorities and large corporate s are employing technical staffs, and arrying out the works by direct labour, depriving architects and builders of ue which they formerly garnered. ke manner housing is observed to be astray. All this because the archi- and the builders prefer to antagonise other rather than to co-operate.

is a painful necessity to touch on a other elements of this uncordial re- nship. For example, builders have unscientific practice of charging for s on a special basis, with the result the employer is led to imagine collu- between the architect and the builder, a view to the former obtaining more and the latter more money out of work, than the sum to which either is y entitled.

Builders' Profits

disarm this odious suspicion the itect is apt to be too severe in cutting the builder's claims. It would be a led advantage to the builder if he could ys prove conclusively that he has not e an excessive profit; but for some un- mable reason a builder's profit seems ys to be regarded as a sacred secret— whisper of it must be breathed. This be simply because, so unscientific are his methods of costing, he does not know what profit, if any, he has made. It is remarkable that a builder's plea, when it is sought to reduce his claims within reason, commonly is "that he has lost money on the contract," and from the frequency with which this plea is urged, it is a reasonable inference that builders thrive on their losses.

It is safe to assume that, as a rule, no person builds with the object of providing an architect with a commission, or with the purely benevolent aim of gratifying a builder with profitable employment. Viewed from the employer's standpoint, building is purely a business matter; he seeks to obtain these services at the least cost to himself, and to get the best value he can for his money. His motive in engaging an architect, or in employing a builder, is not usually altruistic; neither can the architect nor the builder afford to be altruistic.

That there is a cleavage between the professionals and the builders is undeniable, and the gap will not be lessened by the National Building Code. In putting it forward builders seek to place more responsibility upon professional men, and to lessen the responsibility and burden upon themselves. Builders may have just grounds for trying to get rid of some of the responsibility which they have hitherto borne, but I question the reason and justice of trying to transfer it to the shoulders of the architect. At any rate, the new code, produced without fair and full consultation with the R.I.B.A. and the Society of Architects, has created a most unfavourable impression.

A Question of Warranty

The new code makes demands which the architect and the surveyor are hardly in a position to fulfil, however much they may be in sympathy with the aspirations of the builders. For instance, Clause 1 of the regulations, sub-clause (a), demands that the "plans, designs, and schemes shall, as far as the builder is concerned, be warranted by the employer as sufficient for the purposes of this contract, and any matter arising thereunder," and Clause 2, sub-clause (a), demands that "bills of quantities . . . shall be prepared . . ., under the instructions of the employer, by the appointed quantity surveyor, . . ., and for the purpose of this contract the accuracy of such bills of quantities is warranted by the employer." By what instrument or by what means the architect and the surveyor are to obtain these warranties from the employer there is not the slightest indication, nor is there any suggestion as to what form they shall take. Will oral warranties suffice? Or are written ones necessary, setting forth in elaborate detail what they constitute?

It is clear that if this warranty is to operate architects and surveyors must carefully ascertain the extent of their resources —whether they are sufficient to meet new claims for damages. To require the employer to guarantee the plans, designs, schemes, and bills of quantities is to urge the employer to safeguard himself against the possibility of being mulcted in damages through default by the architect or the surveyor. At present an employer has redress by action at common law for faulty design or for negligence by his architect, and against the quantity surveyor for deficiencies in the bills of quantities. Already there is nothing to prevent his bringing an action against both or either. His knowledge of this power he sometimes uses ruthlessly. The architect and surveyor, to avoid the inconvenience and worry of defending an action, however just their cause, prefer to compromise. Why then give this further opportunity to the employer to squeeze the poor architect and surveyor? For, as I have shown, any such warranties would certainly be construed as binding the architect and surveyor to further responsibilities. I cannot conceive that the federated builders deliberately intended to pass these responsibilities on to the shoulders of the professionals, but that is what they do in their new code—unconsciously, I trust. If the architect has to give legal assurance to the employer in order to obtain a warranty guaranteeing his plans, designs, and schemes, he will saddle himself with a most serious responsibility. Under the code, while the builder would obtain relief, the architect would, as we have seen, be left to prove—not always an easy thing—that damage was due to causes outside his control. In other words, it is the architect, and not the building owner, who is made responsible to the builder.

Architects' Agreements

Let me say, in passing, how foolish it does seem that architects should be so insistent upon an agreement's being signed as between the employer and the builder, while the architect is so careless of his own interest that very rarely does he insist on an agreement between himself and the employer. Many architects and surveyors labour under the belief that an instruction carries with it certain fees. Nothing of the kind. It must first be proved that the instruction was received, and, secondly, what were its exact terms. Is it out of deference to the susceptibilities of the architect that the federated builders have inserted the phrase "as far as the contractor is concerned" in sub-clause (a) of Clause 1 of the regulations? "No, no, Mr. Architect," one can hear the federated builders saying, "we do not seek to undermine the harmonious relations between yourself and your client, the employer—quite the contrary, er, but—er—as a matter of business, you understand—thank you!" It won't pass. If the builders seek protection, then let them concede the same right to the architects. But there is rare refreshment in sub-clause (a), Clause 2, with reference to the quantity surveyor, for he shall prepare the bills of quantities *under the instructions of the employer*. What has he done to deserve this? I freely confess that sometimes it is trying to work to the instructions of the architect, but to the instructions of the employer—Never!

(*To be continued.*)

Correspondence

Limitation of Luxury Building

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—When some months ago this proposal was originally mooted, it was apparently abandoned after some discussion. A natural conclusion would be that experts on building questions had seriously considered the matter, and had recognised that the proposal to put a stop to the building of such structures as theatres, picture-houses, etc., would not accelerate the construction of houses to a degree that would be at all commensurate with the dislocation of industry due to such a stoppage. For the tradesmen employed on industrial buildings and alleged "luxury" buildings are not such as would be employed on housing construction, except in very few instances. Past experience indicates clearly that it is not possible to employ expert steel erectors, steel fixers (concrete), concreters, masons, mechanics, etc., ordinarily employed on industrial buildings, to any extent in housing contracts.

It would now appear, however, that this proposal is again being put forward in a widened form, but if it is brought into effect the result may be found more disastrous from the housing point of view than is the present situation. The power of the trades unions at the present is, of course, a matter which has to be very seriously considered, and, consequent on the stoppage of all buildings other than houses a vast number of skilled workmen, members of trades unions, will be apparently thrown out of employment. Exactly what attitude the trades unions will adopt consequent on this effect can only be guessed at.

The architectural profession would, of course, be at a standstill to a very large extent, and consulting engineers and specialists of many kinds in building work would, therefore, find themselves with practically nothing to do. Moreover, many large orders for plant and machinery to be installed in the buildings now in the initial stages, or in course of construction, would be cancelled, and the machinery makers would also find themselves short of orders, in all of which cases it is a natural assumption that still further members of the middle and working classes would find themselves out of employment.

Since the armistice the Government has issued a number of appeals for increased production as being the only way to avoid national bankruptcy. How are the industries of the United Kingdom to possibly increase production to the desired extent when the necessary buildings which are being proposed or erected to effect this increase in production are forbidden by law?

It was recently announced in the Press that an improvement in the national financial status would be effected by the fact that the State had ceased to borrow money, and a campaign is to be organised to popularise housing bonds, and thus obtain the money necessary to carry on with the many large housing schemes now in hand, and one would have thought that to keep employment at as high a level as possible would be the natural method of obtaining the necessary money for this method of housing finance, since it is to the small investor particularly that housing bonds would appeal.

If the contention is right that the stoppage of all building other than houses will cause a greater amount of unemployment, then it would appear that the State are considering the adoption of a measure which will have exactly the opposite effect to that which is at present desirable, and it is to be hoped that the authorities will be able to make an accurate forecast as to the effect that is likely to be produced by the adoption of the measure under consideration and very considerably modify if not abandon it.

A. A. LOVERIDGE.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With regard to the luxury building restrictions, which appear to be attracting a large amount of attention from the general public, we should like to point out one or two salient facts, looking at it purely from the building side.

A general idea seems to prevail that in the event of a ban being put on all luxury building a very large number of workmen would be released for the purpose of proceeding with the various housing schemes. But is this so? The majority of housing schemes that we have had put before us are necessarily of an economical stamp of building. That being so, such trades as stonemasons, steel erectors, decorators, highly skilled joiners, etc., etc., would automatically be out of employment, because when once the men of these various trades have joined their unions it is very difficult—in fact, almost impossible—for them to be transferred, say, from the stonemasons' union to the bricklayers', and their trades certainly will not be required in any housing scheme.

There is also another point, and that is regarding the professional men in the building trade, such as architects and surveyors. Whereas at the present moment these professional men are spread over a large number of buildings, one architect and one surveyor only would be employed on one housing scheme, however large or small.

G. R. HOLLAND,
Director and Secretary, Holland and Hannen and Cubitts, Ltd.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—To a man who is unemployed, the limitation of output by men of his own trade appears no doubt to be desirable and to increase his chance of finding the employment he desires.

It is, however, generally admitted by those who have considered the matter that such limitation of output has an exactly opposite effect to that intended in that it undoubtedly decreases the total production of the country, and thereby correspondingly decreases the total amount of labour required.

Is not the present suggestion that all constructional work other than house-building should be stopped of exactly the same character?

Superficially it might, and no doubt does, appear to those not conversant with the building industry, that to prohibit the erection of a factory would enable all the energies which would have been the engaged to be transferred to the const tion of houses.

This, however, is by no means owing to the great difference between classes of labour and materials which required for the building of house prop and those required for other forms of struction.

The great majority of factories, p stations, colliery, and gas works, and o forms of what may be called "producti structures, are built either of steel or inforced concrete. The stoppage of s work will immediately throw out of ployment the steel fixers, expert concre and other specialised tradesmen, who not by any possibility find employmen building dwelling-houses, and the s would apply to the masons, carvers, who would ordinarily be employed in construction of large public building stone, if these also were prohibited.

But the damage done would not sto this point, as those engaged on the pro tion of many of the different mate required would also be thrown out of ployment, and the prosperity now gradu returning to the building trade as a w would undoubtedly receive a serious, haps fatal, check.

The building trade is of very far-re ing influence on other trades, and is mately connected with them, and a back in it would have a generally depr ing effect on the whole trade of country.

How is it possible that this should a that increase in the output of the cou as a whole, which is admitted on all to be of the utmost importance?

Apart from the depressing effects m tioned above, is it desirable that the fessional men, such as civil engine architects, draughtsmen, etc., engaged the various works which it is propose prohibit should be deprived of their li hood? Most of them have suffe severely during the war, and are now the point of regaining their lost positio

A further period of depression woul many cases bring their professional eff to an end altogether, with the result loss to the country of their abilities energies.

All these considerations tend to show so far from encouraging the building houses, any action in the direction of hibiting other buildings would depres trade of the country as a whole and quickly react to the detriment even house-building itself.

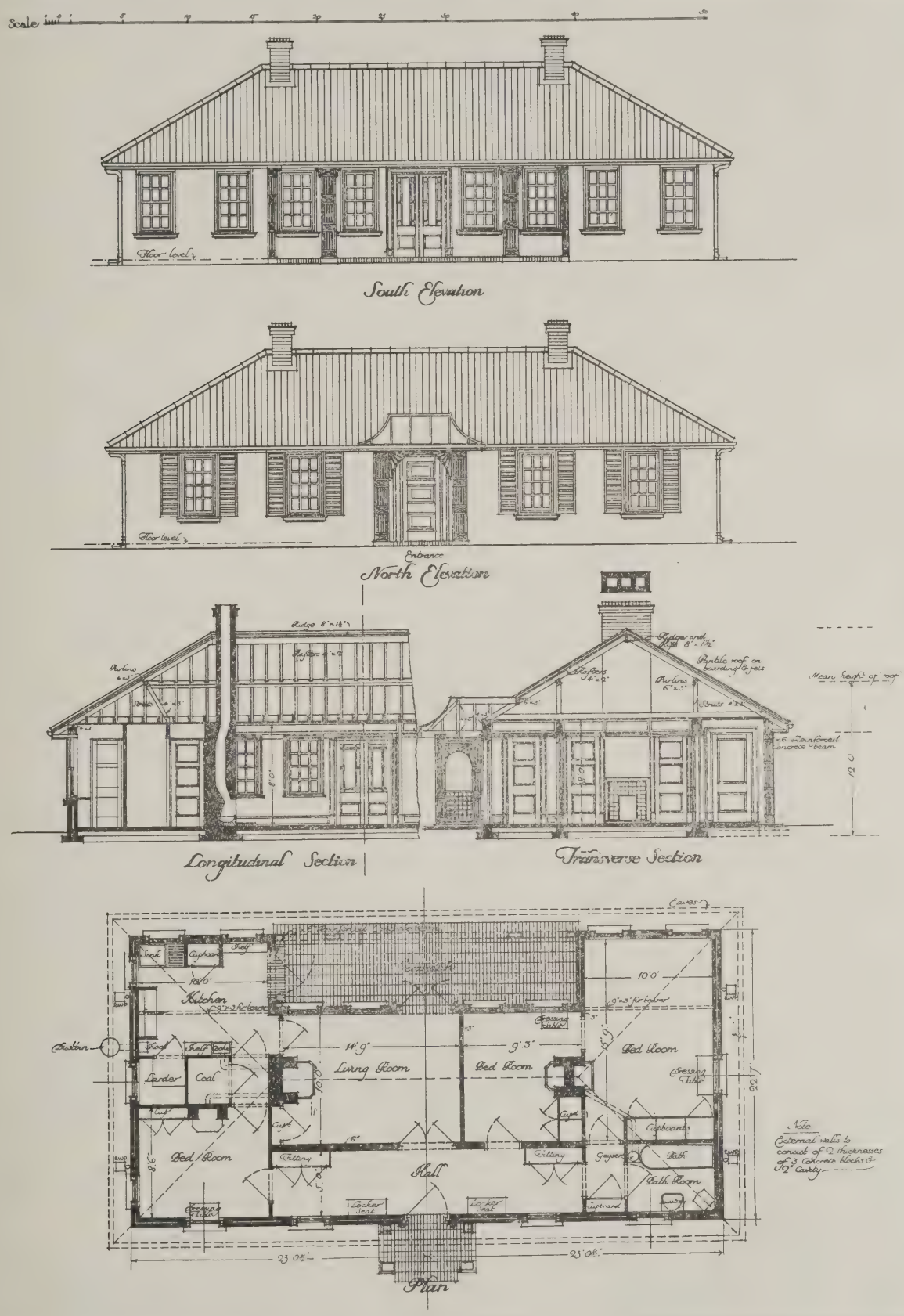
Last, but not least, is the very seri effect which any such prohibition wo have in preventing the general trade of country from being developed and creased by the construction of new work

As explained above, the erection of s structures only interferes with house-bu ing to a negligible extent, while the pro bition of the erection of power stati factories, warehouses, gas works ext sions, railway and colliery buildings, the like, would have the most serious eff on the increase of the general trade of country, which, it is universally admitt is of the utmost importance at the pres time.

R. W. VAWDREY, B.A., A.M.Inst.C.E.
Managing Director, Indented Bar a Concrete Engineering Co., Ltd.

Modern Domestic Architecture. 7.—Bungalow at Byfleet

A. W. S. Cross, M.A., F.R.I.B.A., and K. M. B. Cross, B.A., Architects



The walls of this Bungalow are built of two thicknesses of three-inch concrete blocks with a two-inch cavity. They are rendered on the outside and plastered within. The roof is covered with rough dull-coloured pantiles. There are brick chimney-stacks, and white Georgian sash windows. Shutters painted green, and wood trellis-work of the same colour forming the porch and verandah, complete a design of which the keynote is breadth and simplicity. Mr. Herbert Adams of Weybridge is the builder. A general view of the bungalow appears on page 625.

R.I.B.A.: The Past Year's Work

CCORDING to the annual report of the R.I.B.A., just to hand, the most important task that faced the ncil at the beginning of its year of e was that of giving effect to the wide-ad demand for the unification and r organisation of the profession. The er was taken in hand at the first meet- and a Charter Committee was inted to deal with the scheme, which to be laid aside at the outbreak of the The Committee were rapidly con-ed that wider and more far-reaching osals than those of 1914 must be con-lated, and they submitted to the ncil a recommendation in favour of appointment of a new committee, re-ntative of the whole profession, which ld be entrusted with the duty of pre-ng a broad scheme of unification and tration. The Charter Committee's t was unanimously approved by the ncil, and, on March 22, by a special ral meeting of the Royal Institute. various bodies concerned are now ap-ing their delegates, and the first meet-f the Unification Committee will take towards the end of May. The large nt of evidence and information of a instructive character collected by the ure of Architecture Committee" will anded over to the executive of the cation Committee as soon as it is ap-ed by the latter body.

Architectural Education

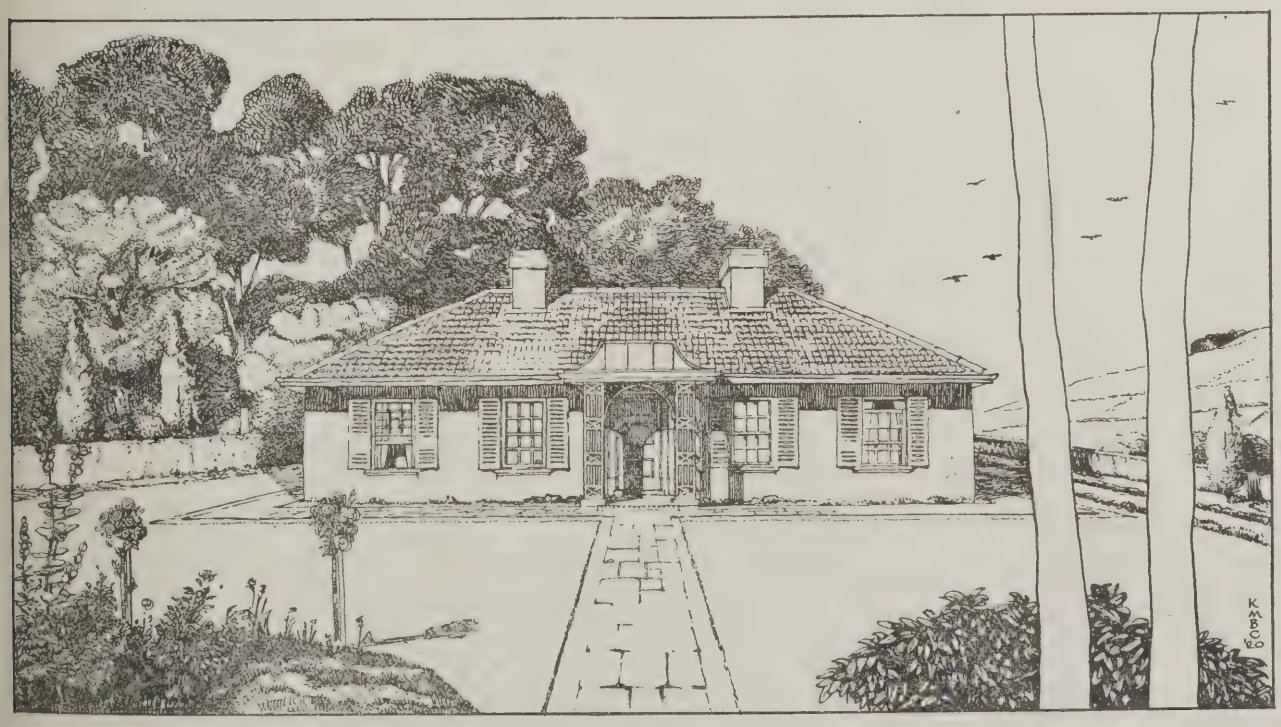
e Council are watching with the est interest and sympathy the rapid opments that are taking place in the ods and machinery of architectural ition. The "recognised schools" are o overflowing after the lean years of ar, and the short courses which in the past qualified students for exemption from the Intermediate Examination are being supplemented by longer courses which, it may be, will justify the Board of Architectural Education in recommending the exemption of graduates from part, if not the whole, of the Final Examination. At the same time, the constitution of the Board is being considered with a view to strengthening its representative character, and qualifying it more fully for its task of guiding and controlling the course of architectural education. The Council welcome the completion of the scheme by which the Royal Academy has undertaken the co-ordination of the work of the several ateliers for advanced students. The Board of Architectural Education are considering the possibility of endowing one or more scholarships or prizes to encourage the work of the ateliers. An extension of the scheme to the larger provincial cities should do much to raise the standard of design throughout the country, and it is hoped that the councils of the larger allied societies will play their part in the development of the system. Members are reminded that a bequest which will have a value of not less than £5,000 has been received by the Royal Institute under the will of the late Sir Archibald Dawnay. The income from this bequest is to be devoted to the furtherance of architectural education, and a scheme for the foundation of a scholarship or scholarships is now being developed.

Throughout the session the Council have been deeply concerned with the problem of the re-establishment of the building trade. In forming the Building Industries Consultative Board—a body representative of the four sections concerned: the architects, the surveyors, the contractors and the operatives—they hoped to provide an instrument which would at the same time help the trade to deal effectively with its own internal problems and serve as a guide to the Government in its dealings with a great and complex industry.

Building Restrictions

After an exhaustive examination of the position as it existed at the termination of the war, in which it received the most valuable assistance from the Director of Building Materials Supply, Mr. G. E. Drower, and a frank interchange of views between the representatives of all sections, the Board came to the unanimous conclusion that the most vital need of the moment was the removal of all forms of Government control over the activities of the industry. This opinion was accordingly conveyed to the Government by a personal letter to the Prime Minister and by communications to the Departments concerned. In this action the Council were indebted to the Society of Architects for constant co-operation and support. The Council regret that up to the present their representations have failed to convince the responsible authorities, who now find themselves faced with difficulties in the National Housing Scheme which they are endeavouring to remove by placing still further restrictions on the industry generally.

The Council have repeated their protest, and they trust that the Allied Societies and the members generally will do their utmost to bring pressure to bear upon members of Parliament and the Government with a view to the removal of such restrictions. The Building Industries Consultative Board further endeavoured to contribute



BUNGALOW AT BYFLEET, SURREY. A. W. S. CROSS, M.A., F.R.I.B.A., AND K. M. B. CROSS, B.A., ARCHITECTS.

(See page 623).

to the improvement of conditions in the industry by issuing and circulating throughout the country a vigorous appeal to all concerned to redouble their efforts to improve production, and to remove the existing causes of friction, delay, and uncertainty.

No effort has been spared to secure the success of the National Housing Scheme. A specially reduced scale of payment for architects engaged in this work was negotiated with the Ministry of Health, and conferences are now taking place with the object of removing certain anomalies that have shown themselves in practical working. The Council have repeatedly urged upon the Ministry of Health the vital importance of entrusting town-planning and housing schemes only to those who possess full professional qualifications, and of assisting demobilised architects by spreading the work as widely as possible over the whole profession.

The Competitions Committee have reported to the Council an unusually large number of competitions, the conditions of which have been at variance with the regulations. As a result of the energetic and prompt action of the Committee, these conditions have in many cases been satisfactorily amended. In this work they have received constant assistance from the allied societies and the Society of Architects. The Council desire to call the attention of members, and particularly of those in the provinces, to the fact that the effective supervision of competitions in the interests of the profession and of the public depends largely on the promptitude with which individual members call the attention of the Committee to unsatisfactory competitions, and to the loyalty with which members generally support the action of the Committee and the Council in dealing with the promoters of such competitions. The Competitions Committee have drafted a set of model conditions for Housing Competitions which are about to be published.

The Building Code

The National Federation of Building Trades Employers have prepared a new building code without consultation with the Royal Institute, and have given notice of their intention to withdraw from the agreement arrived at in 1903. The R.I.B.A. Conditions of Contract Committee have reported to the Council the completion of their work in revising the R.I.B.A. Form, and the question of its immediate issue for the guidance of members is now before the Council.

A strong committee has been formed to consider and report upon the question of the reform of the London Building Acts. Proposals for an amending or consolidating Bill will be prepared, and a conference with the L.C.C. Building Acts Committee will be arranged as soon as possible.

The draft of a new code of professional conduct and practice has been circulated by the Council to the Standing Committees and the Councils of the Allied Societies. The very favourable comments received from these bodies are now being considered by a Committee of the Council and the amended draft will be adopted and published at an early date. It is intended to issue the new code in pamphlet form, together with the President's inaugural address and address to students and the lecture of Mr. Paul Waterhouse on architectural education.

The President and Council had the pleasure of presenting a congratulatory address to Sir Aston Webb, Past-President, on the occasion of his election as President of the Royal Academy. Sir Aston is the first architect who has ever occupied this position. The Council are under special obligations to Major H. Barnes, M.P., for his services in all matters concerning Parliament and the public departments. Although his duties in the House of Commons made it impossible for him to attend many of the Council meetings, his work was of the greatest possible value to the Royal Institute.

The War Memorial

The annual report states that the subscribing membership of the Institute is now 2,680. Members who served with the forces during the war numbered 79 Fellows, 540 Associates, 336 Licentiates, and 300 Students, out of which eleven Associates, nine Licentiates, and twenty-eight Students and Probationers made the supreme sacrifice. In addition the death occurred of ten Fellows, fifteen Associates, nineteen Licentiates, two retired Fellows, one Hon. Fellow, one Hon. Associate, and two Hon. Corresponding Members. A tablet is to be placed in the Institute in memory of those who lost their lives in the war. A competition is to be held for the design, limited to those who served in the war, and the President has been invited to act as assessor.

The Council have given their support to the work of the Architects' and Surveyors' Assistants' Professional Union, and Mr. Walter Cave, vice-president, is acting as chairman of the Welfare Committee. Proposals with regard to salaries and insurance have been submitted to the Council.

The Hon. Auditors call attention to the success with which the finances of the Royal Institute have withstood the strain of the war years. Only the exercise of the most rigid economy, coupled with the restriction of activities to the barest minimum, has enabled this result to be attained. Now, however, it is necessary to resume the full exercise of normal activities and to face the developments called for by a progressive policy, and it is obvious that in view of the general rise in prices an income at the pre-war level cannot possibly be adequate to meet the cost of post-war activities. On the recommendation of the Finance Committee, the Council have accordingly summoned a special general meeting to sanction the increase of subscriptions and fees by an amount which should provide a sufficient income in future.

Coming Events

FRIDAY, MAY 14.

The Royal Sanitary Institute.—Sessional Meeting at Scarborough, at 7.30 p.m. Discussion on "Inconsistencies in Personal and Communal Hygiene," to be opened by James Robert Kaye, M.B., C.M., D.P.H., F.C.S. (County Medical Officer of Health, West Riding of Yorkshire). The chair will be taken at 7.30 p.m. by Professor H. R. Kenwood, C.M.G., M.B., F.R.S.E. (Member of Council).

TUESDAY, MAY 18.

R.I.B.A., 9, Conduit Street, London.—Meeting of Licentiates to elect seven representatives to serve on the Unification and Registration Committee. Mr. John W. Simpson, P.R.I.B.A., will occupy the chair. 4.30 p.m.

The Architecture of Robert Adam

Mr. Arthur Thomas Bolton, F.S. F.R.I.B.A., delivered the first of the Can lectures for 1920, upon "The Decorat and Architecture of Robert Adam and John Soane, 1758—1837," at the Ro Society of Arts on Monday evening of l week.

Mr. Menzies, who took the chair in absence of Mr. Cole, said that he thou there was no more suitable place for delivering of these lectures, because the in Adelphi, they were in Adam-land, a their own building was designed and b by the Adam brothers. It was his wish funds were forthcoming, to restore house to the condition in which brothers left it.

Mr. Bolton dealt with the general p tion in English architecture at the time Robert Adam's return from his memora Grand Tour in Italy, which extended fr the summer of 1754 to January, 1758. T work of the period of the first two Geor had been a solid and a consistent wh which it became the mission of Rob Adam, as a revolutionary artist, to br up and transform. The fundamental i that lay at the root of his revolution the thesis "that the domestic architect of the Greeks and Romans was entirely tinct from that of their Temples." T proposition, which might be regarded merely a commonplace to-day, called question the validity of the system of Orders which had been the subject of much study since men had first turned the remains of Roman antiquity as a basis for building in the earliest days the Renaissance. When Robert retur from Italy the majority of the remain of his life was passed in London, varied repeated journeys to Scotland and over England in connection with his exten practice as an architect.

James might be regarded as having b chief of the staff to Robert, while Joh position seems to have been that of eldest brother, to whom deference shown as by the inclusion of his name the contracts, etc., of the Adam broth There was nothing to show that, apart fr the genius of Robert, any one of the o brothers would have achieved anyth more important than the sound, if he and dull, work of their father, William

Of Robert Adam it could be said that house builder he had few equ Many of his houses remained pra cally unaltered, and their continued oc pation for more than four generati testified in a remarkable way to t merits. There was no hint of eccentri in his classic schemes, which remained t to the ideal of simplicity and repose. Ad taught and practised the necessity variety in contradistinction to the dul of that series of oblong and square i riors which had prevailed in the ear Georgian times. He pointed out the va of the progressive effect ending in climax, but he arrived at such a re without apparent effort, or any strain after a *coup de théâtre* after the man of a Jesuit church, or late Roman Ren sance interior. This Grecian moderat was all the more remarkable beca Adam was the earliest to appreciate real merits of his predecessor, Sir J Vanbrugh, and, as they had seen, he a knowledge of the Italian Barroque had been a close ally of Piranesi.

Higher Buildings for London

t the Lyceum Club recently Sir Martin nway and Sir Theodore Chambers took t in a debate on the subject, "That ndon should stretch up, not out." Mr. ford Hewitt presided. Mr. Delissa eph, F.R.I.B.A. (who, it will be remem-ed, read a paper before the R.I.B.A. "Higher Buildings for London"), was ong those present.

Sir Martin Conway said that he had not lly grasped the fact that he had been ected to come and support any par-ular theories. He was horrified to rn that London was going to have a pulation of ten million people in a few rs' time. He took it that ten million ple indicated two million families. ey had to make their choice. If they nted to live in town and be townsmen v could not have the amenities of the ntry. The moment you got towns of million inhabitants you could not vel home every day; you had to live in n. The hideous number of railroads, crowded travelling, the pushing and shoving, the loss of parcels and tem-s—all were the result of spreading the pulation over a large area.

f they were not going to spread out y must go into the air. He was con-ced it could be done. It was only a estion of whether they wanted it or not. was not advocating skyscrapers; do let anybody say he was. The idea as learned it was that the ordinary work-class man, or the ordinary middle-ss man, liked to have a little house of own, with a roof of its own. Then he s told that the working-classes could not dure what they called tenements. Well, did not wonder at it. People objected stairs. Going up stairs was a process t became monotonous. If they were ng to build London up in the air, they st have lifts. The only lift that would of any use was one that would be always rking and which would hold a lot people. He confessed he had had no ctical experience of these matters, but was quite certain the buildings must big if they were undertaken at all—dertaken in a novel manner and on an mense scale. He could conceive of such uilding having its own co-operative res, its own cinema, theatre, school, . It would have central heating, ctric light, and hot and cold water in ry room.

He had been asked, What would happen such a building caught fire? Well, he d been in such a building when it ight fire, and no one found it out for days.

Where were the children going to y?" someone else asked. A crêche uld be in the building, and the whole ld problem would be solved. The ther would be free to go to work if she nted, and she could go to work in the ne building. Such a building would be y profitable as an investment, too, if ne on a very large scale. He did not nt the Government to build them, how-r; he wanted them to be put up as a ving concern.

Sir Martin, in conclusion, said that he s not in the least anxious to make con-ts. If he made a convert he would gin to think he was wrong. He simply ew them down the bone of contention.

Sir Theodore Chambers said that he ned issue with Sir Martin Conway on ne points. He thought high buildings for offices would be excellent, but for living in it was a horrid idea, destructive of morality, and not the sort of place to bring children up in. He agreed that reconstruction of London should be undertaken in some manner, but suggested that there should be small, self-contained cities outside of London. The whole housing area in this country took up only one-eighth of the entire acreage.

"Get the industries away from the great centres," was his advice, not get them away anywhere, but think the matter out well before they started. He instanced Welwyn (Hertfordshire), and its advantages, and the happy natural lives of the people there. London life was not a natural life; it was one which they had to grow into.

Following Sir Theodore Chambers' expressions of opinions, a discussion took place.

Societies and Institutions

Institution of Civil Engineers.

At the last meeting of the Institution of Civil Engineers twenty-five Members and one Associate were elected, and thirty-two Associate Members transferred to Members.

Society of Architects' Scholarship.

Twenty-five students competed in the Society of Architects' Victory Scholarship Competition for a gold medal and scholarship, value £150. The students, who were all under thirty-five, were ordered to make a drawing of a great doorway to a National Pantheon. Twelve hours were given in which the work was to be completed. The society intend to hold a competition on the same lines each year.

Institute of Industrial Administration.

The Institute of Industrial Administration, of 110, Victoria Street, S.W.1, have held their first general meeting at the Central Hall, Westminster. About 150 members attended. The hon. secretary announced wide support from both London and the provinces, and also a promise by Lord Haldane to address the members on the subject of administration. A strong provisional committee was appointed representing many branches of industry. As an immediate step in the work of the Institute, a series of lectures on the organisation of payment by results are being given at the Central Hall, Westminster.

Sheffield Architects and Surveyors.

At a general meeting of the Sheffield, South Yorkshire, and District Society of Architects and Surveyors, with Mr. A. F. Watson in the chair, the following officers were elected: President, Mr. C. B. Flockton; vice-president and hon. secretary, Mr. J. R. Wigfull; hon. treasurer, Mr. R. W. Fowler; council, Messrs. W. G. Buck, F. E. P. Edwards, J. R. Hall, C. F. Innocent, J. Lancashire, H. L. Paterson, H. I. Potter, C. S. Sandford, and F. H. Wrench. The outgoing president (Mr. A. F. Watson), who has occupied the position during the past seven years, was heartily thanked for his services, and especially for the help he has rendered to the interests of the profession during the years of the war. The other officers were cordially thanked for their services. Mr. Flockton, in returning thanks for his election, referred to the fact that his father was the first President of the Society on its formation thirty-three years ago, and said he would use his best endeavours to further the work of the Society, and especially the interests of the younger members.

The R.A. Dinner

The anniversary dinner of the Royal Academy has been held in Gallery No. 3. Prince Albert occupied the seat of honour on the right of Sir William Aston Webb, P.R.A., F.R.I.B.A.

Responding to the Royal toast, Prince Albert said that the President, who had always taken a foremost place in every movement of social progress, was well fitted to guide the destinies of the Society through this time of change. The development of motor travelling had brought back to our highways some of the importance which they enjoyed in the old coaching days. He felt sure that many of his comrade motorists would welcome the revival of the village sign or emblem lettered and conspicuously displayed. In the neighbourhood of Sandringham these village signs had been introduced with considerable success. Sir Aston Webb had referred to the Industrial Welfare Society and to King George's Fund for Sailors, with both of which he was proud to be associated as president. The Industrial Welfare Society was trying to sharpen the faculties of the boys in the workshops and to teach them another great art, that of keeping fit and of becoming players instead of spectators. But games, though the best levellers in life, were not everything. The artisan needed the help of the artist to exhilarate the mind and eye. The increasing leisure of the public called for greater attractions in art galleries and museums. The one big question of the day was the welfare of the people. Painters, sculptors, and architects have their responsibility in representing scenes and portraits, monuments, memorials, buildings, in such a form as to inspire those who see them with greater powers of observation and sympathy of enterprise and imagination. To the Royal Academy they could look with confidence to meet these requirements of the age.

The President, proposing "Our Guests," coupled with the toast the names of Senor Merry del Val, the Spanish Ambassador, and Mr. J. W. Davis, the American Ambassador.

The Spanish Ambassador said the Spanish painters to-day took English art for their example and model. There was a movement in Spain to open an exhibition of Spanish art in London towards the end of this year.

The American Ambassador said it was in the art of a nation that its soul was most truly expressed. Egypt with its civilisation was long since gone, but its architecture and art spoke in eloquent terms of the people who inhabited the historic valley of the Nile. The Greek Federation had disappeared, Athenian law had passed and was forgotten; Olympian Jove himself had fallen from the throne, but the Parthenon and the Venus of Milo kept the soul of Greece alive and warm in their hearts to-day. Great Britain by its sculpture, painting, and architecture gave a constant message to its Allies across the seas.

Economic Heating and Cooking

America has for so long enjoyed a reputation for the best systems of central heating and the most up-to-date and convenient cooking-ranges, stoves, and open grates, that it is a satisfaction to point out that Britain is now making rapid strides in this direction. The new housing schemes therefore will not only incorporate economic and efficient installations of hot-water heating and scientific cooking appliances, but an immense saving will be effected in the labour hitherto involved.

Fuel Economy and Smoke Abatement.

Of considerable interest to architects in search of the economic and efficient are the inventions of Mr. A. P. Florence, M.I.H.V.E., managing director of the London Warming and Ventilating Company, who has just been entrusted with the complete equipment of the heating and cooking apparatus for the forthcoming British Antarctic Expedition—though not the first important work of the kind, for his company similarly equipped the late Captain Scott's expeditions to the North Pole some years ago. Indeed, Mr. Florence is one of the leading authorities on the subject, having devoted a lifetime to inventing valuable improvements for the kitchen—the most important room of any house—and may claim to have had a very large share in promoting fuel economy and smoke abatement. Several years ago the "Florence" patent boiler-grate (which burns anthracite) was tested with six others by the Coal Smoke Abatement Society at a house in London, with results that conclusively demonstrated its superiority both as regards small coal consumption and minimising of smoke. This same grate, by the way (the back boiler of which serves sufficient radiators to warm a whole house), recently won for a householder the "Daily Mail" £50 prize, which was awarded for the best labour-saving device in the home. The gratified winner in question informed the "Daily Mail" that, although he had had the grate in constant use for ten years, "it has not cost one penny for repairs."

Hot-water heating for large houses is generally considered by engineers to be the acme of refinement, and the Committee appointed by the Ministry of Health is now considering this system for small dwellings. Properly designed, it is, of course, the most desirable. In America steam heating is used in both town and country houses to a greater extent than any other method.

Anthracite Stoves and Ranges.

Mr. Lawrence is also the pioneer of anthracite stoves and ranges, notable among the latter being his "Kooksjoie," specially constructed for anthracite, though it burns all fuels. This range, being continuous burning (with anthracite), saves the servants much labour, while the flues merely need attention once in six months, and the chimney once in as many years. The "Kooksjoie" (made in eleven sizes, from mansion to cottage) is the range specially selected by the British Antarctic Expedition to the South Pole. Fuel-saving is a feature of the range, which, burning anthracite, and being properly regulated, the smaller sizes only consume about half a ton of coal per month, although burning day and night. It is not surprising, therefore, that it should be rapidly superseding the old-fashioned type of range burning five or six tons of coal per month. The large size, or "Communal" kitchener—capable of cooking for a great number of persons—consumes an average of one ton of anthracite per month. The largest-sized nuts, or cobbles, are found most satisfactory for these ranges.

It is interesting to note that this particular range has been proved most suitable in connection with the recent trials of the Welcome Heater Company's new paraffin-oil burner, which is being extensively adopted on ships.

One-Ring Gas Cooker.

Another innovation by the same inventor, particularly convenient in houses occupying isolated positions, or where the ordinary fuels are not readily available, is known as the "Wifesjoie" one-ring gas cooker, which is becoming justly popular for various reasons. This ingenious cooker—the only one combining a hot-water service—is equipped with a swing burner, which concentrates heat on any part of its enclosed hot-plate; an automatically ventilated oven, maintaining any required temperature; and a movable hot-plate providing easy access to all parts for the purpose of cleaning. It will cook to perfection for a family, keeping four pots boiling, or two pots and oven at cooking heat, whilst simultaneously heating a fifteen-gallon cylinder of water, only consuming thirty-five cubic feet of gas per hour in the process, equivalent to an average cost of twopence, with gas costing as much as 4s. 6d. per 1,000 cubic feet.

The "Wifesjoie" cooker is easily adaptable to country house petrol-gas installations, and is highly successful with the paraffin oil burner previously mentioned, costing only one penny per hour for the oil consumed. It can be supplied with or without supports, to stand conveniently upon a table, or with or without copper high-pressure boiler or cylinder.

Housing Materials

The Ministry of Health have under consideration, in consultation with the Ministry of Munitions, the arrangements for the supply of materials required for assisted housing schemes, and the following provisional arrangements have been made in modification of those outlined in Memorandum No. D.65 and General Housing Memorandum No. 10. In view of the largely increased demands for materials which may be expected during this and the following years it has been decided that building materials (other than light castings, sanitary ware, drainpipes and glass) should as a rule be purchased independently of the D.B.M.S. The Housing Commissioner will require to be satisfied that the prices on which tenders are based are the best obtainable. The D.B.M.S. will complete purchases which he is already making on behalf of local authorities of the classes of materials referred to in Memorandum D.65, and in order that he may have full information to guide him it will be necessary that he should be informed as early as possible whether the local authority propose to rely upon him for the supply of such materials.

Publications Received

Notes on Gas and Oil Engine Accidents. Price 1s. net. The National Boiler and General Insurance Company, Ltd., National Buildings, St. Mary's Parsonage, Manchester.

Half Past Twelve Dinner Hour Studies for the Odd Half Hours. By George W. Gough, sometime Exhibitioner of Balliol College, Oxford. A simple and interesting study of economics from a non-political point of view. Sells, Ltd., 168 and 167, Fleet Street, London, E.C.4. Price 1s. net.

THE "KOOKSJOIE" RANGE

Supplied to the Imperial British Antarctic Expedition (1920), being successfully tried with the "Welcome" Heater, which burns paraffin oil. Reading from left to right: Mr. E. M. Joyce, Second in Command of the Expedition; Mr. A. MacLennan, inventor of the "Welcome" Heater; Mr. A. P. Florence, M.I.H.V.E., inventor of the "Kooksjoie" Anthracite Range.

Current Prices of Materials

DON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

OUR RATES AND TERIAL PRICES.	MEASURED WORK PRICES.
VATOR AND CONCRETOR	
tor, 1s. 9d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. 6d. per yd. cube.
er, 1s. 9d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
1s. 9d. per hour.	In stiff clay, add 50 per cent.
man, 1s. 10d. per	In underpinning, add 120 per cent.
der, 1s. 10d. per	In rock, including blasting, add 225 per cent.
man, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
brick or stone,	Return, fill, and ram, ordinary earth, 3s. 3d. per yd.
, 7s. per yd.	Spread and level, including wheeling, 3s. 4d. per yd.
s ballast 19s. per yd	Planking, 6d. per ft. sup.
avel, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
d, 22s. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 9d. per yd. sup.
d sand, 23s. 6d. per	Do. 6 in. thick, 4s. 6d. per yd. sup.
ed ballast or gravel,	Puddling, 36s. per yd. cube.
10 per cent. per yd.	Cement concrete, 4.2.1, 58s. per yd. cube.
breeze, etc., prices	Do. 6.2.1, 53s. per yd. cube.
ding to locality.	Do. in upper floors, add 12½ per cent.
nd cement, 80s. per	Do. in ferro concrete work, add 20 per cent.
in small lots, ex	Do. in underpinning, add 50 per cent.
on stock, 100s. per	Lias lime concrete, 48s. per yd. cube.
me, 70s. per ton.	Breeze Concrete, 35s. per yd. cube.
charged extra at	Do. in lintols, etc., 5s. per ft. cube.
d. each and credited	
returned at 2s.	
ort hire per day:	
and horse, 28s.	
motor lorry, £6 15s	
m lorry, 5-ton, £6.	
ler, 32s. 6d.	
m roller, £4 10s.	
er cart, 20s.	
NER.	
rer, 1s. 9d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 3s. 3d., 6-in. 4s. 10d., 9-in. 6s. 6d. per ft.
rman, 1s. 10d. per	Cast-iron drains, jointed in lead, 4-in. 9s., 6-in. 15s. 3d., 9-in. 26s. 6d. per ft.
ayer, 2s. 0½d. per	Note.—These prices include digging and filling for normal depths, and are average prices.
er, 2s. 1d. per hour.	
man, 6s. 6d. per shift.	
ware pipes, tested	
ity, 4-in. 3s., 6-in.	
d., 9-in. 7s. 11d. per	
iron pipes, coated,	
lengths, 4-in. 4s.,	
5s. 9d., 9-in. 8s. 6d.	
yd.	
nd cement and sand,	
Excavator above.	
for caulking, 55s.	
cwt.	
t, 1s. 9d. per lb.	
KLAYER.	
ayer, 2s. 0½d. per	Brickwork in stone lime mortar, Flettons or equal, £49 per rod.
r.	Do. in cement do. £53 per rod.
rer, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
lder, 1s. 10d. per	Do. in blues, add 320 per cent. per rod.
r.	Do. circular on plan, add 12½ per cent. per rod.
	Facings, fair, 3d. per ft. sup. extra.
n stocks, 86s. per M.	Do. picked Flettons, 5d. per ft. sup. extra.
ns, 80s. per M.	Do. picked stocks, 7d. per ft. sup. extra.
rdshire blue, 226s. M.	Do. salt, white, or ivory glazed, in areas, 6s. per ft. sup. extra.
ricks, 2½ in., 223s. per	Struck pointing, 4½d. per ft. sup. extra.
l, salt, white, and	Tuck pointing, 1s. per ft. sup. extra.
y stretchers, £25 M.	Weather pointing, 4½d. per ft. sup. extra.
headers, £24 10s. M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
rs, extra, 130s. per M.	Do. 1½-in., 5s. 9d. per yd. sup.
ds, less, £1 per M.	Do. 2-in., 7s. per yd. sup.
nt and sand, see Ex-	Fixing only damp course, ex rolls, 2½d. per ft. sup.
ator above.	Asphalte, damp course, ½in., 1s. 6d. per ft. sup.
grey stone, 65s. per	Do. vertical 2s. per ft. sup.
	Slate damp course, 2s. per ft. sup.
lime mortar 26s.	Asphalte paving in two thicknesses, ¾-in., 12s.
yd.	per yd.
course, 4n rolls of	Do. skirting, 6-in., 1s. 8d. per yd.
in. 4s., 9 in. 7s. 3d.,	
in. 10s. 9d., 18 in.	
per roll.	
ON (INCLUDING SLATE).	
n, 2s. 0½d. per hour.	Hoisting and setting stone, 1s. 11d. per ft. cube.
xer, 2s. 1½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
rer, 1s. 9d. per hour.	Plain face Portland, basis, 2s. 6d. per ft. sup.
older, 1s. 10d. per	Do. circular, 3s. 4d. per ft. sup.
r.	Sunk face, 3s. 6d. per ft. sup.
	Do. circular, 4s. per ft. sup.
and stone:	Joints, arch, 2s. 3d. per ft. sup.
itbed, 4s. 5d. per ft.	Do. sunk, 2s. 3d. per ft. sup.
ube.	Do. do. circular, 3s. per ft. sup.
ebed, 4s. 8d. per ft.	Circular-circular work, 15s. per ft. sup.
ube.	Plain moulding, straight, per inch of girth, 9d. per
stone, 3s. 1d. per ft.	ft. run.
ube.	Do. circular, 1s. per ft. run.
field red, 7s. 6d.	Half sawing, 1s. per ft. sup.
al trade extras for	Add to the foregoing prices if in York stone 35 per
ge blocks.)	cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 10s. 3d.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
	Rubbed round nosing to do. 8d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal:
Tiler, 1s. 11½d. per hour.	Ladies 95s., Countess 103s., Duchess 117s. per
Scaffolder, 1s. 10d. per hour.	square.
Labourer, 1s. 9d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
N.B.—Tiling is often "Piecework."	Delabole do. 115s. per square.
	Add, if vertical, 8s. 6d. per square approx.
Slates, 1st quality, per M.:	Add, if with copper nails, 7½ per cent. per square approx.
Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 105s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 92s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 0½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. 3d. per ft. cube.
Joiner, 2s. 0½d. per hour.	Do. framed in floors, roofs, etc., 14s. per ft. cube.
Labourer, 1s. 9d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 18s. per sq.
Archangel:	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 98s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 29s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 108s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in. 3s 3d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1½-in. 16s. 6d. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 1d. per hour.	Milled lead and labour in gutters, flashings, etc., 80s.
Mate or labourer, 1s. 9d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 2d. per ft.
	Do. ¾-in., 2s. 11d. per ft.
Lead, milled sheet, 55s. per cwt.	Do. 1-in., 3s. 4d. per ft.
Do. Drawn pipes, 55s. 6d. per cwt.	Do. 1¼-in., 4s. per ft.
Do. soil pipe, 60s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in. 10s. 9d. per ft.
Do. scrap, 28s. per cwt.	Do. 3-in., 11s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 15s. 9d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 2d., per ft.
Do. fine, 2s. 3d. per lb.	Do. 3-in., 2s. 6d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. 3d. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 3d. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Do. 3-in. 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 48s. each.
	Baths only, with all joints, 40s. each.
	Lavatory basins only, with all joints on brackets, 33s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass: Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 0½d. per hour. hour.	Lathing with sawn laths, 2s. yer yd.
Labourer, 1s. 9d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not includin, lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 67s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	
Plaster, 83s. per ton	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 11½d. per hour.	Lime whiting, 2 coats, 6¼d. per yd. sup.
Labourer, 1s. 9d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. 1d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 11½d. per hour.	Knot, stop, and prime, 9d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	Do. subsequent coats, 1s. 3d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 5d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 10d. per yd. sup.
	Figured do. do. 8s. per yd. sup.
Turpentine, 18s. 6d. per gal.	French polishing, 1s. 10d. per ft. sup.
Liquid driers, 22s. per gall	Stripping old paper and preparing, 2s. per piece.
Knotting, 29s. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 15s. 6d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Double size, 7s. per firkin.	Varnishing, hard oak, 1st coat, 1s. 6d. per yd. sup.
Pumice stone, 9d. per lb.	Do. each subsequent coat, 1s. 4d. per yd. sup.
Hard stopping 9d. per lb.	
Varnish, hard oak, 19s. per gall.	
Do. Outside do., 19s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 22s. 6d. per gall.	
Do. Flat, 22s. 6d. per gall.	
Do. Paper, 22s. 6d. per gall.	
French polish, 28s. per gall	
Turps substitute, 7s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £58 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £42 per t
Erector, 1s. 10d. per hour.	Do. in compounds, £47 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reeinforcement, £46 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including build in, 60s. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including wash and driving screws, 1s. 7d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including st or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 5d. per sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in pl colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not includ wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per ft. s
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not includ battens or boards, plain "diamond" per squa grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the c of cement used (about 3s. to 4s. per bushel cement).
Wrought iron R.W. goods: R.W. gutter, 4 in., per yd. 1s. 11d.	Gutter-fixed, 1s. 6d. per ft.
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 1d. per ft.

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Glasgow Royal Technical College

During April on Saturday afternoons the students and staff of the Architecture and Building Day and Evening Classes of the Royal Technical College visited four buildings in course of construction. The first visit was paid to the new houses at Coplawhill being erected for the Glasgow Corporation under the direction of Mr. Peter Fyfe, director of housing, the party being conducted round the works by Mr. David Skinner, chief clerk of works on the housing schemes, and by Mr. Macgregor, the resident clerk of works. The wooden houses erected by Mr. Cowieson in the same area were also visited.

The second visit was to the Demonstration School, Jordanhill, the architects for which are Messrs. John Keppie and Henderson, and which, after being in the hands of the Admiralty and the War Office, is now to be completed for its first intended purpose.

The third building visited was the new Provincial Training College, Jordanhill (Messrs. H. and D. Barclay, architects). This extensive work is yet far from being completed, so that its construction could be clearly seen, the great roof and gallery cantilevers of the large hall being specially studied.

The fourth building visited was the Students' Hostel, Jordanhill, presently being completed from the plans of Mr. Andrew Balfour, architect. This building commands extensive views, for on a clear day Goatfell, in Arran, can be seen in one direction from it, and the hills around the Trossachs in another.

The party was conducted over the last three works by Mr. Andrew Brown, clerk of works, who added a special feature of interest and value in arranging that Mr. John Burnett, of Govan High School Evening Classes, should be present to exhibit and explain his remarkable collection of specimens of native and foreign timbers, which he did to the genuine appreciation of everyone.

At the close of each visit Professor Gourlay proposed, and the students gratefully accorded a very hearty vote of thanks to the architects for their kind permission to visit their buildings, and to the clerks of works for the able way in which they had conducted the visits, especially for directing their attention to the varied nature of materials and methods of construction employed.

Competition News

Lockerbie.

War memorial. Cost £2,000, excl sive of roll of honour, architect's fees, ar outlays. Particulars from Mr. I M'Jerrow, Town Clerk. Closing dat June 30. The R.I.B.A. and the Society Architects request their members not take part in the competition, the condition not being approved.

Sheffield.

War Memorial Halls. Assessors, S Aston Webb, K.C.V.O., P.R.A., and M F. E. P. Edwards, F.R.I.B.A. Premium £250, £150 and £100. Apply Mr. W. H Hart, Town Clerk. Designs by July 31.

R.I.B.A.

Memorial Tablet, with the names o Members, Licentiates, and Students wh laid down their lives during the war. Pre miums, 100 guineas, 30 guineas, and 2 guineas. Full particulars of the compet tion, which is open only to Members Licentiates, Students, and Probationer who served in the Forces during the war was published in our issue of May 5, pag 600. The total cost of the memorial, fixe complete, is not to exceed the sum of £500 exclusive of honorariums and premiums Closing date May 30.

ednesday, May 19, 1920 Volume LI. No. 1324

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

Sir John Vanbrugh, half dramatist, half architect, was born, it is inferred from one of his letters, in 1666. In 1702 he succeeded Talman as Comptroller of Royal Works, and in 1716 he followed Wren as Surveyor of Greenwich Hospital. He was knighted, by George I. in 1714. In connection with Blenheim Palace his greatest work, he suffered many indignities at the hands of the niggardly Sarah, Duchess of Marlborough, and this bitter experience may have shortened his life, for he died in 1726, when only sixty years old.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 15.—Palazzo Massimo delle Colonne, Rome

Baldassare Peruzzi, Architect

Augustus Hare describes this palace as "gloomy but handsome." It is, of course, the six Doric columns forming the portico which give the

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The City Churches Must be Saved

ROTEST against the proposal to demolish nearly a score of venerable City churches grows daily in volume and vehemence. All the great London newspapers, and all the most influential urnals in the provinces, are unanimous in condemning in the highest degree scandalous the cool proposal to b the City of London of more than one-third of her erished heritage in churches, and letters of fierce otest against what is generally regarded as a unsel of wholesale sacrilege have been almost umerable. Special and influential meetings of pro-t are being held, and remonstrant resolutions are ing freely sent to the Bishop of London, who by this e must heartily regret that he ever set the Commis-n to work. That he is disposed to hearken to its regious counsel of destruction we refuse to believe, d we are in a position to assure him—al hough doubt-s he is aware of it already—that in setting his face as lint against it he will be secure of the hearty support the entire architectural profession, in common with all educated elements in the community, including, we ume, as a matter of course, his own clergy.

For instance, the Rev. Hudson Shaw, rector of St. tolph's, Bishopsgate, addressing a large congregation that church on May 10, confessed to "a certain ount of furious indignation" at the Commission's ious threat against no fewer than nineteen of the City rches, thirteen of them built to Wren's designs. How ommission composed exclusively of Churchmen could scend to such depths of æsthetic depravity passes all derstanding. The Bishop will surely remember what majority reporters on the Commission have incontitly forgotten—that our splendid heritage of the City rches is not parochial: virtually it belongs to the ion, and the nation will not let it perish at the hands a callous parochial Commission. The Wren churches an integral part of the history of architecture. Nay, y belong to the history of the Empire and of the men o made it.

We notice with pleasure that at last Thursday's meet-of the City Corporation the recommendations of the hop's Commission were strongly condemned by a ge majority, which passed a resolution vigorously testing "against such wholesale destruction of City dmarks," and calling upon "the proper authority to hhold its sanction to the proposal." Speakers at the eting heartily denounced the suggested iconoclasm. e of them described it as "a horrible project." other asked very pertinently what Americans and adians would think of us for breeding a body of men able of agreeing to suggest this deed of shame. other said that the proposal "filled him with abhorce." and opined that if the Lord Mayor would call a ldhall meeting the miserable project would be howled n by a thousand voices. In spite of the rude shock ur faith in humanity which the Commission has given we believe that the sense of a Guildhall meeting ld be as forcibly expressed as this hearty speaker cipates. Sir Banister Fletcher, F.R.I.B.A., said that the City must sternly forbid this "architectural Bolshevism." It was inevitable that this term would sooner or later emerge, and the objection to it, if any, relates rather to its staleness than to its strength.

Mr. Arthur Keen, hon. sec. of the R.I.B.A., sent to the meeting a letter expressing, on behalf of the Council, the hope that the attitude of the Court of Common Council would be one of uncompromising opposition. Certainly. No compromise! But there should be some aggressiveness. We strongly urge the Council, whose business is not only to promote good architecture but to preserve it, to call a meeting of all architectural interests to pass a formal resolution condemning in the most emphatic terms this dastardly Philistine attempt to destroy wholesale the work of our foremost British architect.

Sir Reginald Blomfield, presiding at the dinner of the London Society at the Adelaide Galleries on Thursday evening, naturally referred to the subject that must have been uppermost in the minds of all present. He did so with his customary directness and vigour. "If," he said, "it were once admitted that a great corporate body like the Church of England was entitled to part with its property to meet the need of the present generation, it seemed to him there was no logical reason why this process should not ultimately be extended to St. Paul's and Westminster Abbey." Precisely. This sapient Commission has, by its mere report, done an infinite amount of discredit to Church and country. It has set up a bad precedent of irreverence, shown a shocking example of reckless indifference to the claims of art and antiquity, a heartless disregard for the feelings of those who care passionately for those priceless treasures that our ancestors have bequeathed us. In thus revealing their willingness to lay waste our most precious inheritance from the past they have unconsciously ranged themselves among those who deem that veneration for noble buildings and for the history and tradition they embody is "mere sentimentality."

What Sir Reginald said about St. Paul's and the Abbey was no fancy flight of imagination, no mere rhetorical point. The case for their preservation, if ever the question is raised (which Heaven forfend!) will be enormously weaker for this shocking precedent, even though it be not allowed to take more horrible shape than that which it has already assumed as poisonous advice.

This fatuous Commission as a whole will go down to posterity bracketed equal with the Wise Men of Gotham; but honourable exception is to be made of Lord Hugh Cecil and Sir W. Collins, who dissent from the general verdict.

For one thing we have to thank them, although, for our part, we see no occasion to overwhelm them with gratitude. They have elicited the glorious fact that even in the City of London there are hosts of persons who care passionately for what is admirable in art and sacred in association. Would that they had illustrated the fact in their own recommendations. J. F. MOR.

Notes and Comments

The R.I.B.A. Contract Form

THE contract-form muddle has been further complicated. This time a point of procedure is in question. There are, it may be remembered, three forms of contract in being. There is the R.I.B.A. old form, now obsolescent; there is the form produced by the Society of Architects; and there is the new code produced by the Federated Builders. And now the R.I.B.A. are about to issue yet another form. This is all very confusing; and to make confusion worse confounded, there has arisen a slight domestic difficulty about the R.I.B.A. form, as well as some small amount of friction with the builders. At the annual general meeting of the Institute, complaint was made that the form was to be issued without being submitted to the members for approval. To this complaint the reply was that the form had been under careful consideration for seven years, that such a document could not be conveniently or profitably considered in detail by a general meeting, and that, in short, this was one of the many matters of detail in which members must trust their committees and their council. There is much force in this defence; yet surely the fairest and most sensible procedure was to circulate a draft proof among all the members, and to invite suggestions for amendment, which, of course, committees and council might adopt or reject at discretion. This course might not have resulted in any very important improvements to the document, but it would have prevented the grievance that has arisen, and would have invested the form with wider sanction. And what a pity it is that the three organisations mentioned did not co-operate to produce a form acceptable to all. As the matter stands, any one of these three contracts coming into a court of law will certainly be impugned by counsel interested in discrediting it. A joint committee of all the interests should be immediately appointed, with instructions to reconcile their differences with the least possible delay, lest evil come of the divided counsels represented by the absurd diversity of documents.

R.I.B.A. Attendances

Always on the eve of an Institute election, the number of attendances made by each officer is published. It is valued by too trustful voters as affording opportune guidance in the exercise of the suffrage. Yet obviously it has but slender claims to be considered an infallible index to efficiency. Quality, indeed, it makes wholly subordinate to number. It tells you how many, but not how much. Punctuality is no guarantee of diligence. The members who said "Adsum" most often may be the very men who do the least amount of effective work. Or they may not. And the member of Council who out of a possible highest score of fifteen registered a miss every time may have exerted a tremendous amount of outside influence to which the invidious symbol of O attached to his name does imperfect justice. Or he may not. What the figure or the "blob" tells us is evidence not of service, but merely of presence or absence. One gentleman, we observe, enjoys the unique distinction of making the highest possible—15. That is Mr. H. D. Searles-Wood. For this fine record he has not yet been awarded the Royal Gold Medal, which this year, it will be remembered, has been allocated to M. Ch. Girault, who follows an illustrious line of Frenchmen—MM. Hittorff, Lesueur, Viollet-le-Duc, Louis Duc, Garnier, Daumet, Nénot, and Pascal. But Mr. Searles-Wood, pending higher honours that must come to him late or soon, has been nominated for a Vice-Presidency. It is the least acknowledgment that could be made to him for his many years of assiduous work for the Institute.

The Ideal Public-house

It cannot be said that the ideal public-house is yet in being. In the matter of design, the average specimen is simply deplorable, the chief aim being apparently garishness. An important step towards betterment is being taken by Messrs. Samuel Allsopp and Sons, Ltd. of Burton-on-Trent, who are inviting designs for the "Ideal Public House." Conditions may be obtained from them. Premiums of £200, £175, and £125 are offered, and the author of the design placed first will be engaged to supervise the work at the R.I.B.A. scale. Mr. W. Curtis Green, F.R.I.B.A., has consented to act as assessor, and designs must be sent in before June 30. Considering that in our towns public-houses are more numerous than any other class of building, we have the more reason for wishing very earnestly that the winning design may be of exemplary good taste. Put the Ideal Public-house in the Ideal Village, and that for some "were Paradise enow."

Competition Awards

Competitors frequently complain of delay in making known the awards in competitions. Such delay is undoubtedly a very annoying experience. A competitor is naturally anxious to know his fate at the earliest possible moment, and is impatient of any delay, no matter how slight it may be. Sometimes the competitor is kept waiting for months. In one celebrated case the announcement was not made until years had elapsed. When at length it was made, some of the competitors had emigrated, and some were dead, while the winner, we were told, had made engagements which prevented him taking up the supervision that was so tardily offered him. When such delay occurs, there is always a tendency to blame the assessor, but in point of fact the fault is seldom his. He is usually glad to finish the job out of hand. Far more often it happens that the cause of the delay is the reluctance of the building owner to sign cheques for the sums involved in the awards, which the assessor has submitted for his acquiescence. Being an architect who probably has been at some time in his career a competitor, the assessor is the least likely person to prolong the agony of suspense of those who are waiting for the verdict as anxiously as if life and death, fame and fortune depended on the issue. In cases of delay, therefore, the proper course is not to complain to the assessor, but to address a polite reminder to the promoters of the competition.

Scholar and Social Worker

Dr. Ronald Montagu Burrows, who died last Friday at the age of fifty-three, and who since 1913 had been Principal of King's College, London, has many strong claims to grateful remembrance. To scholarship of uncommon brilliancy he gave a practical turn by conducting excavations in Crete that, it has been said, "will link his name for all time with that of Sir Arthur Evans in the achievement of reconstructing a whole world which existed in Crete 4,000 years ago." As "one who loved his fellow men," he was always busy in promoting social welfare in wise and effectual ways, and five-and-twenty years ago, working hard for the Scottish Council for Women's Trades, he became a pioneer in "welfare work" by persuading the owners of Glasgow factories to pay greater regard to the health, comfort and convenience of the operatives. He had, at one time, almost boundless influence among trade unionists whom he strove to instruct in the true principles of political economy. Always encouraging legitimate aspiration, but never hesitating to expose fallacy, he was a valuable moderating force.

A Village of Samples

In commending the enterprise of the "Daily Mail" organising a permanent exhibition to demonstrate w methods of house construction, we must confess to slight misgiving as to the fitness of the title. We are d that the Ideal Village "will be unique in that each use will be built of a different material or by a different thod." The result of such a hotch-potch of samples not possibly be "ideal" æsthetically. There can be doubt, however, about the utility of the project; but fear that the word "ideal" is here applied as having quired a quite conventional significance—as having come, in fact, a sort of trade mark. We note with easure, but not without a Morris-like mixture of opes and fears for art," the statement that "the hibiting firms can be relied on to secure the best architural talent available to design their specimen tages." This will bring the architects and the hibiting firms into a special relationship that should prove the education of both parties. Architects cerly need to know more about special methods and materials, and the promoters thereof will find it useful to obtain a somewhat more intimate acquaintance with the niceties of architectural design. So there will be something "ideal" about the village, after all.

A Competition for Village Signs

Following up Prince Albert's suggestion, made at the annual dinner of the Royal Academy, for the revival of the village sign, the "Daily Mail" are now offering a series of prizes, ranging from £1,000 for the first prize, for the best designs. The awards are to be made by a small committee of representative artists, of whom Sir Aston Webb, P.R.A., will be one. In all, the prizes total £2,100, and, besides the handsome first prize, consist of sums of £500, £200, £100, and six prizes of £50 each. When Prince Albert made the suggestion, of course, he made it as a motorist who had felt the lack of some such sign. In most villages the only way of distinguishing one's whereabouts is by searching for the name over the little Post Office, or trying hard to make sense of the alien tongue of some rustic who lives therein.

The Rome Scholarship Awards

THE annual competition for the Rome Scholarship in Architecture, awarded by H.M.'s Commission for the British School at Rome, was recently held in London, with the following ult:—

The Scholarship, which carries an annual sum of 50 for a period of three years, with free studio ommodation in Rome, has been awarded to Mr. F. O. wrence, A.R.I.B.A., B.A., Liverpool.

A second Scholarship of £100 was won by Mr. W. ugill, A.R.I.B.A., who was placed second in order of it, and two Scholarships of £50 were awarded to Mr. R. Arthur and Mr. A. Koerner, who were bracketed the third place.

The subject for this year was a design for "A House Parliament for a British Colony, in conjunction with a War Memorial." Following the French system, the candidates were required to work out their designs "en loge," that is in separate cubicles, and as the time allotted was eighteen days of nine hours, the arduous nature of the conditions under which they laboured will be apparent. It is the more remarkable that under these exacting circumstances they were able to produce work of such outstanding merit, and so much of it. Most of the candidates prepared six "antiquarian" sheets of fully-rendered drawings. The severest test in the whole course of the competition was the requirement that each competitor should produce a sketch design for the project on the first day. These sketches were then covered with tracing paper and sealed by the officials in charge, so that any radical deviation from the original conceptions which might reveal itself in the course of their subsequent development could be immediately detected. That each candidate fulfilled this condition to the satisfaction of the assessors is convincing testimony of the extraordinary rapidity of decision which forms a part of modern architectural training.

F. O. LAWRENCE, A.R.I.B.A., B.A., WINNER OF THE ROME ARCHITECTURAL SCHOLARSHIP.

In most cordially congratulating Mr. Lawrence on the great distinction he has won, we would like to point out that this gentleman was, until a short time before the war, a student of the Liverpool School of Architecture, where he prepared his Law Courts design in the preliminary round.

Mr. Dougill and Mr. Arthur also worked out their designs for the same subject, in the preliminary round, in the Liverpool School of Architecture, of which they are still students. Mr. A. Koerner is a student of the Ecole des Beaux-Arts, Paris, where he studied for three years previous to the war.

The assessors for the competition, who are all members of the Faculty of Architecture of the British School at Rome, consisted of the following gentlemen: Sir Reginald Blomfield, R.A., Sir Aston Webb, P.R.A., Sir Edwin Lutyens, A.R.A., Sir Robert Lorimer, A.R.A., Mr. Ernest Newton, A.R.A., C.B.E., Mr. John W. Simpson, P.R.I.B.A., Professor Lethaby, F.R.I.B.A., Professor Reilly, F.R.I.B.A., O.B.E., and Mr. W. Curtis Green, F.R.I.B.A.

In the assessing of the Scholarship, which Mr. Ernest Newton was prevented from attending on account of indisposition, Professor Reilly stood down, as three out of the four candidates were, as has already been mentioned, past or present students of the Liverpool School of Architecture.

The Week's News

Concrete Institute: New President

Mr. E. Fiander Etchells, A.M.Inst.C.E., A.M.I.Mech.E., Hon. A.R.I.B.A., will be appointed as president of the Concrete Institute at the annual general meeting to be held on May 27.

Ecole des Beaux-Arts War Memorial

One thousand francs have been presented by the Society of Architects to the Ecole des Beaux-Arts War Memorial Fund. The memorial is to perpetuate the memory of students of the Ecole des Beaux-Arts of Paris who lost their lives in the war.

C.W.S. and the Manchester Building Guild

The Co-operative Wholesale Society, next to the Government the largest manufacturer and buyer of building material in the United Kingdom, has placed its resources at the disposal of the Manchester Building Guild.

First Atelier Sous-Patron

The Council of the Society of Architects have appointed, on the recommendation of the Beaux-Arts Committee, Mr. de Soissons to be Sous-Patron of the First Atelier. The retiring patron is Mr. J. P. Chaures, who is at present engaged in carrying out important work in France, which he secured by winning competitions.

R.I.A.I. and Unification

The Council of the Royal Institute of the Architects of Ireland have considered a letter from the R.I.B.A. in connection with the establishment of a committee in London to consider the unification and registration of the profession. The Council appointed Mr. Lucius O'Callagan, the president, to act on the committee.

An Aldwych Discovery

During excavation operations on the Aldwych site in the Strand for the Bush Terminal Building, the labourers have found what is supposed to have been the "green room" of the old Olympic Theatre, which was pulled down many years ago. Around the spot was once a thickly-populated Roman colony, and on the other side of the Strand there still exists in an excellent state of preservation a Roman bath.

Scottish Housing

On the recommendation of the Advisory Committee the Scottish Board of Health have formulated a scheme to secure the better distribution of housing contracts among Scottish builders. By arrangement between representatives of the Board, the local authority, and the local employers' association, or a committee of local builders, an agreed price per house or per block will be fixed for the erection of a specified number of houses, the latter being distributed among the local builders according to their resources. Under these arrangements it is anticipated that the largest possible number of builders and workmen will be engaged on housing schemes. While urging builders to take their fair share of the contracts the Committee ask them to limit their profits of housing to the lowest possible minimum.

Mr. Victor D. Horsburg, F.R.I.B.A.

Mr. Victor D. Horsburg, F.R.I.B.A., who for ten years has been occupied in an official capacity in designing branch buildings for the Canadian Bank of Commerce, is spending three months' leave in the United Kingdom. Mr. Horsburg was Institute Essay Medallist in 1907, and for the past two years has been chairman of the Toronto Chapter of the Ontario Association of Architects.

Manchester Town-Planning Scheme

A town-planning scheme for Manchester representin an outlay of nearly 3½ millions sterling is being co sidered by the City Council. It is proposed to procee with the work as each area concerned develops, an certain commitments for purchases of land have alread been entered into. It is said that the full scheme ma take fifty years to complete, and pointed out that th provision of new roads will enable much traffic to pa the city without going through the centre.

Luxury Building

A resolution has been passed by the London Centr Building Trades Employment Exchange Committe "that the policy adopted by the L.C.C. in restrictin building licences cannot materially assist housin schemes, and would have a very harmful effect on th building industry." The Committee further recom mend that the refusal of licences should be restricted classes of buildings the erection of which could be co veniently deferred and where such refusal did not inte fere with the commercial activities of the community.

Repairs to St. Paul's

Owing to the increased cost of labour and materials, further appeal has been made by the Dean and Chapt for £50,000 for the preservation of St. Paul's Cathedra A comprehensive scheme of repair has been proceedin since 1913, when alarm was caused by subsidence parts of the building. It is stated that the only dang now comes from within, the chief difficulty being th weakening of the piers and bastions supporting th dome by the rusting of the iron cramps inside the ston work. These iron cramps, where discovered, are bein replaced by copper.

The Threatened City Churches

At a meeting of the Society for the Protection Ancient Buildings on Thursday night, with Earl Ferre in the chair, it was decided to invite members of th committee of such other bodies in London as might b interested in the matter to confer with the Society wi regard to the demolition of nineteen City churches. was unanimously agreed that if these monuments are be saved the Church could not be expected to bear th whole loss, and that all possible steps ought to be take to make the public aware of its national responsibility the matter.

Weekly Housing Report

New housing schemes submitted to the Ministry Health during the week ended May 8 numbered 15 The total number of schemes submitted by loc authorities and public utility societies is now 9,938, co prising about 69,000 acres. The schemes approved no number 6,174, and comprise about 47,500 acre Ninety-four lay-out schemes were submitted and ninet four approved, bringing the total number of lay-ou submitted to 4,081, and the number approved to 3,52 House-plans representing 2,381 houses were submitte and plans for 2,989 houses approved. The tot number of houses represented in all the plans now su mitted is 191,350, and in the plans approved 179,89 Tenders were submitted for 4,424 houses. Tenders f 2,173 were approved, bringing the total number houses in tenders submitted to 110,712, and in tende approved to 96,543. Plans for 7,106 "subsidy house to be erected by private builders have been approved 592 local authorities. Three hundred and nine orde for the compulsory purchase of land for housing ha been submitted by local authorities, and 270 have be confirmed by the Ministry.

Interior of Allhallows Church, Lombard Street, London

Sir Christopher Wren, Architect

Allhallows, Lombard Street, one of the City churches scheduled for demolition, was rebuilt by Wren after the Great Fire. The exterior is somewhat plain and unattractive, but the interior is one of considerable architectural charm. It contains an exquisitely sculptured white marble font besides a quantity of carving in the Grinling Gibbons manner.

. Victor Laloux: The Man and His Work

3.—The Professor

By H. BARTLE COX, A.R.I.B.A., Ancien Elève, Atelier Laloux

:erary Works—Students' Demonstration—L'Atelier Laloux

GREAT student who has had a great practice which in great measure he owes to State aid and to State recognition, cannot but feel constrained to show his gratitude to the State by g the younger members of the profession by ng an atelier and serving as adviser to the national , and in aiding to the utmost of his ability the pment of the art of which the nation has so largely ɔuted to make him a "Master."

Pioneer Literature

the architect's library M. Laloux has contributed portant works: one on the Restoration of Olympia, ıer on Greek Architecture.

Olympia

work on the Restoration of Olympia is a pioneer ort, being for the first time a complete restoration ıncient city from an historical as well as from an ctural point of view. For this M. Laloux worked junction with M. Paul Monceaux, Docteur-ès-ɔ, Ancien Membre de l'Ecole Française nes, who studied and wrote up the history of ia and described the religion and fêtes, etc. M. : studied on the site for six months, and in Paris laborate restorations of the monuments, etc.

work was published in 1888, honoured by a sub-n from the Ministère de l'Instruction Publique et aux-Arts; crowned by the Académie Française, the Prix Montyon and Prix Bordin.

drawings exhibited at the Salon des Artistes is 1885 won the highest distinction—the Medal our.

ill this time the Germans had made considerable ions in Greece and other places, mostly of details, . Laloux's restoration of Olympia was the first to give a comprehensive conception or "Vision d'Ensemble" to be the joint work of an architect and of an archæologist.

Since the publication of this restoration others have worked on similar lines—M. Pontremoli, the first student of the Atelier Laloux to win the Grand Prix de Rome, made an excellent restoration of Pergamos in collaboration with M. Collignon, Membre de l'Institut.

Greek Architecture

The small handbook on Greek Architecture was written at the request of the Bibliothèque de l'Enseignement des Beaux-Arts— a useful series of books written for elementary students. This work on Greek Architecture clearly shows M. Laloux's acumen as an architect in contradistinction to the pedantry of a pedagogue. The following note from his preface well illustrates the point:—

"The study of the orders clearly demonstrates that no fixed rule guided the architects, and that, contrary to the writings of Vitruvius, whose opinion prevailed so long, the relations between the different elements of architecture were extremely variable and entirely subject to the caprice of the constructors."

HOTEL DE VILLE, ROUBAIX: GRAND ENTRANCE VESTIBULE.
V. LALOUX, MEMBRE DE L'INSTITUT, ARCHITECT.

Activity

M. Laloux is now seventy years of age, enjoys good health, and is full of energy. His private life is simple; at his town residence he still receives every morning before 9 a.m. When at his country house at Montigny-sur-Loing he is fond of coursing and fishing. He is constantly upon juries for public competitions, and devotes considerable attention to his atelier and to the administration of the Ecole des Beaux-Arts.

Bon Camarade

Undeniably his communal-individuality has impressed its stamp upon modern architecture, and his fine character endears him alike to his confrères and pupils.

A French youth about to embrace the profession of architecture is actuated in his choice of atelier by several motives—family connections, social introductions, etc., but chiefly by the chance of success at the école by studying under the Professor who is the most likely to develop the student's own taste. A professor must therefore be a man of wide sympathy.

M. Laloux, when a student in the Atelier André, was always considered an excellent "Camarade," was never "Massier,"* but as "Ancien Elève" during the life-time of M. André used to criticise during his absence; in consequence, was looked up to by the bulk of the students as being the probable successor to M. André, whose atelier was officially recognised by the Government as an internal atelier of the Ecole des Beaux-Arts. Great was their consternation, upon the death of André (1890), to find that the Government had nominated M. Moyaux in his stead.

This incident was one of the most turbulent, and is one of the most interesting, in the history of architectural ateliers. Some of the students actually presented themselves in person to the Ministre de l'Instruction Publique et des Beaux-Arts to protest. However, M. Moyaux remained, though with very few students, for the majority took the library, their boards, etc., and with great manifestation started an atelier (Hors de l'Ecole) on their own account, and requested M. Laloux to be their "Patron" (or master). From that time the atel grew, and has since become one of the biggest yet kno in France.

M. Moyaux died in 1911, and was a personal frienc M. Laloux. The reason for the students' demonstrat was not on account of any objection to M. Moyaux, because they required M. Laloux, and resented the in ference with their liberty of choice. This is an edify example of the Frenchman's attitude towards edu tional matters.

The Atelier Moyaux is now carried on as an inter atelier of the école directed by M. Lambert.

HOTEL DE VILLE, ROUBAIX. GRAND STAIRCASE. V. LALOUX, MEMBRE DE L'INSTITUT, ARCHITECT.

L'Atelier Laloux

The Atelier Laloux is still one of the largest anc successful. During a lifetime of twenty-four yea to 1914) it has obtained against all the others of F eight times the Premier Grand Prix de Rome greatest number yet obtained by any one atelier.

Cher Maître

From a large atelier of several years' standing o naturally find many architects in good position with big practices, emanating from the same sou inspiration.

When the "Patron" is of the calibre of Laloux" it is easy to understand the Frenchmen of the term, "Cher Maître."

(To be concluded.)

* A "Massier" looks after "La Masse": The Bank or the Stock of the Atelier. Professors of "Internal" ateliers receive from the State a nominal remuneration. In "Outside" ateliers the professor is generally paid from the "Masse." M. Laloux, on the contrary, often contributes.

Current Architecture. 18.—University College, Dublin: Detail of Central Block

R. M. Butler, F.R.I.B.A., Architect

Detail illustrations of the new University College, Dublin, were given in our issues of November 12 and 19, 1919. The composition has been based on the Dublin architecture of the eighteenth and early nineteenth century. The order adopted is Greek Ionic, adapted from the Temple of Eleusis. The main façade consists of a central columnar block with two side wings, and a projecting pavilion at each end.

Current Architecture. 19.—Design for Sedbergh School Memorial Cloister

J. Hubert Worthington, M.A., A.R.I.B.A., Architect

W. Walcot, delt.

Sedbergh School was founded in 1528. It stands in the hill-country where Yorkshire and Westmorland meet. The selection of the site for the war memorial cloister was difficult owing to the hilliness of the ground, but a solution was found by deciding to cut a three-sided cloister out of the side of the school hill, and to form a spacious quadrangle in front of the old school buildings. The cloister is to be built of freestone from near Barnard Castle, and vaulted with a series of pendentive domes. "*Dura virum nutrix*," the school motto, which with the founder's arms are carved over the central arch, sets the keynote of the architectural conceptions—whose simple severity harmonises with the school ideal of hardihood and with the ruggedness of the hills.

Royal Academy Exhibition.

The Royal Academy Exhibition

3.—Architectural Room

F the Architectural Room at this year's Academy contains but few things that reach to the full height of modern British ideals, the show as a whole may at least be said to afford a very fair dex to contemporary achievement. It must be many ars since Burlington House gave us an equally good presentation of current tendencies in the various partments of architectural design. And the word lesign" applies in its literal as well as its abstract nse, for few are the exhibits that represent buildings eady in being; which, perhaps, is a healthy sign for e future prosperity of architects and of the building lustry. In any case, it is a relief, after the dull years war-time stagnation (during which we had become signedly accustomed to the wholesale resurrection of hibits that had figured in the Academies of long, long o), to find ourselves confronted with something that is lly new.

The cheerful appearance of this year's Architectural om is to be attributed to (1) the absence of photoaphs and (2) the plenitude of water-colours. (The gue of the scratchy pen-and-ink sketch and the melanoly wash drawing is obviously declining.) The clusion of photographs will no doubt be regretted by lover of realism, who prefers the evidence of the mera's lens to that of the artist's eye. But, after all, body goes to the Academy to see architectural lism; of that, alas! there is only too much to be seen the streets; so the absence of photographs is really no eat matter. Another type of exhibit of which we cant but regret the passing is the rendered and detailed rking drawing, of which at one time there was variably a good selection to be seen on the walls. -day we have a bright array of water-colours; so if the ow has lost in usefulness, it has at least gained in erficial attractiveness.

Coming to a consideration of the exhibits (of which, fortunately, we have space to notice no more than a ne), the first thing that strikes the eye on entering the om is a model of the proposed east pavilion on the th side of the Quadrant, Regent Street (1,237), signed by Sir Reginald Blomfield, R.A., Mr. Ernest wton, R.A., and Sir Aston Webb, P.R.A. Of this ture, by the way, there is an excellent rendered draw- by Sir Reginald Blomfield on the walls (1,164). The vation is well composed in a conventional manner, and much more appropriate to the character of London's ncipal shopping thoroughfare than Norman Shaw's gnacious Piccadilly Hotel, which it adjoins, and whose le it preserves. The new design, however, is none attractive in its roof line, and some of the detail ld be improved by further study: notably the proding keystones and voussoirs to the heads of the big ndows, and the consoles on each side, which are thin and not altogether graceful in outline.

Mr. Frank Atkinson's design for the new Kingsway mises of the General Electric Company (1,196) is own in a brilliant but rather unequal water-colour spective by Mr. Cyril Farey. (Mr. Farey, by the way, o be congratulated on having such a fine array of wings on show. We counted as many as fifteen perctives by his brush, and there are probably more. All of a high level of excellence.) Admirable in scale l detail alike, the G.E.C. building should make a able addition to the architectural attractions of igsway.

Mr. Walcot, usually so prolific, has only three draws in the room this year. Two are for Sir Edwin yens and one for Mr. J. Hubert Worthington. The er (1,263) is reproduced in this issue. Of the former, No. 1,264 (Imperial Delhi: Interior of Ballroom) is of the greater attractiveness, being wonderfully soft and cool in effect—a delicate essay in pale blues and greens against a ground of grey. Sir Edwin Lutyens is building a wonder city at Delhi if Mr. Walcot has not unduly idealised his subject. The other Delhi exhibit (1,185) is the Jaipur Column, a graceful monument set amid gardens and fountains. With his pale blues and greens Mr. Walcot has cleverly suggested an atmosphere of intense heat.

Mr. H. Austen Hall shows a design for a War Memorial addition to his Lambeth buildings (1,239)—an octagonal structure which, with its twin towers, acts as an admirable foil to the long straight lines of the elevation it adjoins. Classicalism a trifle stern and unrelenting is the characteristic of Messrs. Briggs and Thorneley's Stepney Municipal Buildings (1,194), which, however, are redeemed by good scale and effective composition. A refined essay in the academic manner is to be seen in No. 1,189—an elevation by Messrs. Mewès and Davis for the Antwerp branch of a London bank.

One of the biggest projects represented in the room is that for a Theatre and Winter Garden in Clayton Square, Liverpool, by Mr. Robert Atkinson (1,179). The drawing, a *tour de force* by Mr. L. H. Bucknell, apparently shows the side elevation, which, with its formal front, left, and big expanse of almost unrelieved wall surface, right, does not, perhaps, constitute the best point of view. A plan would have been a useful adjunct to this exhibit. Another work by Mr. Atkinson is 1,147—Entrance Hall to a Theatre at Brighton—wherein vaguely suggested walls are strikingly contrasted with a golden blaze of domical ceiling.

Professor Beresford Pite's complete scheme for Insurance Offices in Euston Road is shown in a well-executed elevational drawing in wash (1,148). Of this fine and very dignified composition the existing building is seen to form only the right-hand pavilion. A conception of such rare distinction ought not to remain uncompleted.

A new dignity will be added to Piccadilly when Mr. W. Curtis Green's design for Premises Nos. 258-260 (1,281) takes form in three dimensions. Mr. Green has not hesitated to adopt the giant order which, much in vogue a few years ago, went out of fashion for a time, but now seems to be coming into its own again.

The exhibition is naturally strong in war memorials, one of the most notable, if not the most successful, being Mr. W. J. Palmer Jones's design for the Egyptian Expeditionary Force Memorial at Jerusalem, which is represented by a large model (1,312) and a perspective drawing (1,139), the latter noticeable by the intense blueness of its sky. The memorial is oval on plan, with a Doric peristyle and ambulatory around. Flights of steps on the long sides lead to a massive truncated obelisk in the centre, which, despite a certain stark majesty, fails to make a perfectly satisfactory climax. Another big project in connection with Jerusalem is shown in Nos. 1,173-4—a Hebrew University, whose joint authors are Professor Patrick Geddes and Mr. F. C. Mears. Conceived in the Byzantine manner, this great group of buildings would compose well with the arid undulations of its locale. A plan would help to a better understanding of the relationship of the various units.

Among the smaller types of war memorials special mention must be made of Mr. Cyril A. Farey's design for one at Salisbury (1,230)—a brilliant little water-colour showing a small classic temple mirrored in water

—and of the model which is shown by Messrs. John W. Simpson and Maxwell Ayrton for a memorial in Lincoln's Inn—a simple yet very dignified and appropriate conception, comprising a wide platform approached by three shallow steps flanked by small pylons, and with a low wall at the back with seats, a central pylon providing a panel for names. Better by far this than all the heroics of flaunting sculpture groups. Another simple and appropriate memorial is the Shrine for Uppingham School, designed by Mr. Ernest Newton, R.A., and shown in a delicately and sympathetically executed water-colour sketch by Mr. W. G. Newton.

Parisians will have a taste of the quality of one of our most distinguished architects when Mr. Paul Waterhouse's Bank Front (1,234) is erected on the Boulevard des Capucines. Here is an excellent piece of design in characteristic manner—restrained, dignified, British.

Domestic work is notable by its quality rather than its quantity. Mr. Newton shows some delightful water-colour drawings of stately mansions at Burgh Heath Goring and Kingswood (1,223, 1,270, 1,271), while Mr. Dawber is well represented by a house in Gloucestershire (1,252).

Ecclesiastical work is not too well represented, but attention should be drawn to Sir John J. Burnet's proposed reconstruction of Balliol College Chapel, Oxford (1,285), to Mr. G. Gilbert Scott's proposed Chapel at Liverpool College for Girls (1,177), and to Messrs Greenaway and Newberry's proposed church of St. John the Divine, Earlsfield (1,140).

Architectural Causerie: City Churches

My pen this week is inditing of a good cause. I refer to the churches bequeathed by Sir Christopher Wren and his successors to London, some of which have been condemned in committee. Since the signing of the peace we have heard much about the dawn of a new era of reconstruction. Are we to countenance in its place a period of destruction? When Louvain was sacked and Rheims deprived of its glory, all England called for vengeance on the Hun; the whole country thrilled with anger. For this reason there is hope of a speedy reprieve for the nineteen churches from the pickaxe of the spoiler.

* * *

The City Churches Commission recommend the removal of these monuments mainly because a saving of money could be effected. In addition to practical advantages suggested by a readjustment of forty-seven benefices, the sale of valuable sites for the benefit of commerce would bring funds to ecclesiastical coffers sorely depleted. We Londoners are to be deprived of our monuments to suit the whims of a few; but in the face of the storm of protest aroused by the proposal it is not likely that this ugly proposal will go through.

* * *

Because it is deemed expedient for ecclesiastical purposes to divide the square mile of the City into four quarters, to be known each and severally as—the Bishopsgate Quarter, the Aldersgate Quarter, the Blackfriars Quarter, and the Tower Quarter, nineteen temples are threatened with destruction. They will be safe from this for many years if the architects, artists, and lovers of London hold together. It is argued that the City is non-residential, that few persons attend the full Sunday services held in these buildings, that the sites on which they stand are ripe for development, that certain of the churches are architecturally unimportant in design. There are, roughly speaking, nearly fifty churches in or near the confines of the City of London. Take away nineteen and little more than two-thirds remain. Within ten years a further proposal will be put forward to remove another twenty, and then another thirty, finally, our successors may be faced with the proposition to demolish St. Paul's Cathedral. Commercial men will covet its valuable site.

* * *

These threatened buildings may not be of equal merit to the majority of Wren's masterpieces. They may not be frequented on Sundays and holy days, when the tide of the City's populace sweeps to the suburbs, but they are used and reverenced by the workers within the walls between the hours of toil, and for this reason alone their stones shall be held inviolate. As far back as the year 1860, ten of Wren's churches disappeared under the "Union of Benefices Act."

* * *

In the East City the Commission would tamper with the fabric of nine fanes. The first on the list is All Hallows, Lombard Street, the church with the square unpretentious tower and the body all glorious within. In this case the directors of a bank are waiting on the threshold with a cheque ready signed for a fabulous amount. The next is All Hallows, London Wall, a masterpiece in miniature by the younger Dance. These Commissioners would have the church of St. Botolph Aldgate, but would leave us the tower. They propose the demolition of St. Katherine Coleman, of St Clement, Eastcheap, of St. Dunstan-in-the-East except the tower, about which there is a curious jest; they look with disfavour upon the church of St. Magnus, but would spare the tower, already under the shadow of a scheme for rebuilding near by. St. Mary-at-Hill is on the list with no saving clause anent the tower, and these Commissioners appear to have no compunction regarding the glorious St. Mary Woolnoth. St. Michael, Cornhill, Wren's essay in Gothic, would likewise disappear except the tower, if the committee had the ordering of its fate.

* * *

In the West City Wood Street would be shorn of the church of St. Alban. St. Anne-and-St. Agnes-cum-St John-Zachary in St. Anne's Lane, Aldersgate, would be razed. No respite would be shown to St. Botolph Aldersgate, and the hand of the destroyer would likewise spare not Shaw's church of St. Dunstan-in-the West, though all Fleet Street would shriek if the tower curiously reminiscent of Boston Stump, were attacked. Even the square tower and lead cupola of goodly proportions, enriching St. Mary, Aldermanbury, would share the fate of the other nineteen. As a concession, St Michael Royal would have its tower left, but St Nicholas Cole Abbey, Fish Street, and St. Stephen Coleman Street would go. Lastly, St. Vedast, in Foster Lane, hard by the Hall of the Goldsmiths, would be lost but this hard-hearted Commission deemed it necessary to preserve the tower.

* * *

Notebook in hand, I walked from church to church directly the news of the condemnation reached me. Numerous have been the messages from my architect friends imploring the good offices of this Journal to help save the City from such spoliation. For days past the telephone has been busy. There has been a buzz of excitement at No. 9, Conduit Street. The Society for the Protection of Ancient Buildings is to convene a special meeting in Buckingham Street, and I believe the good offices of the London Society are to be turned, for the nonce, from recording historical data, to a campaign of active protest.

AERO.

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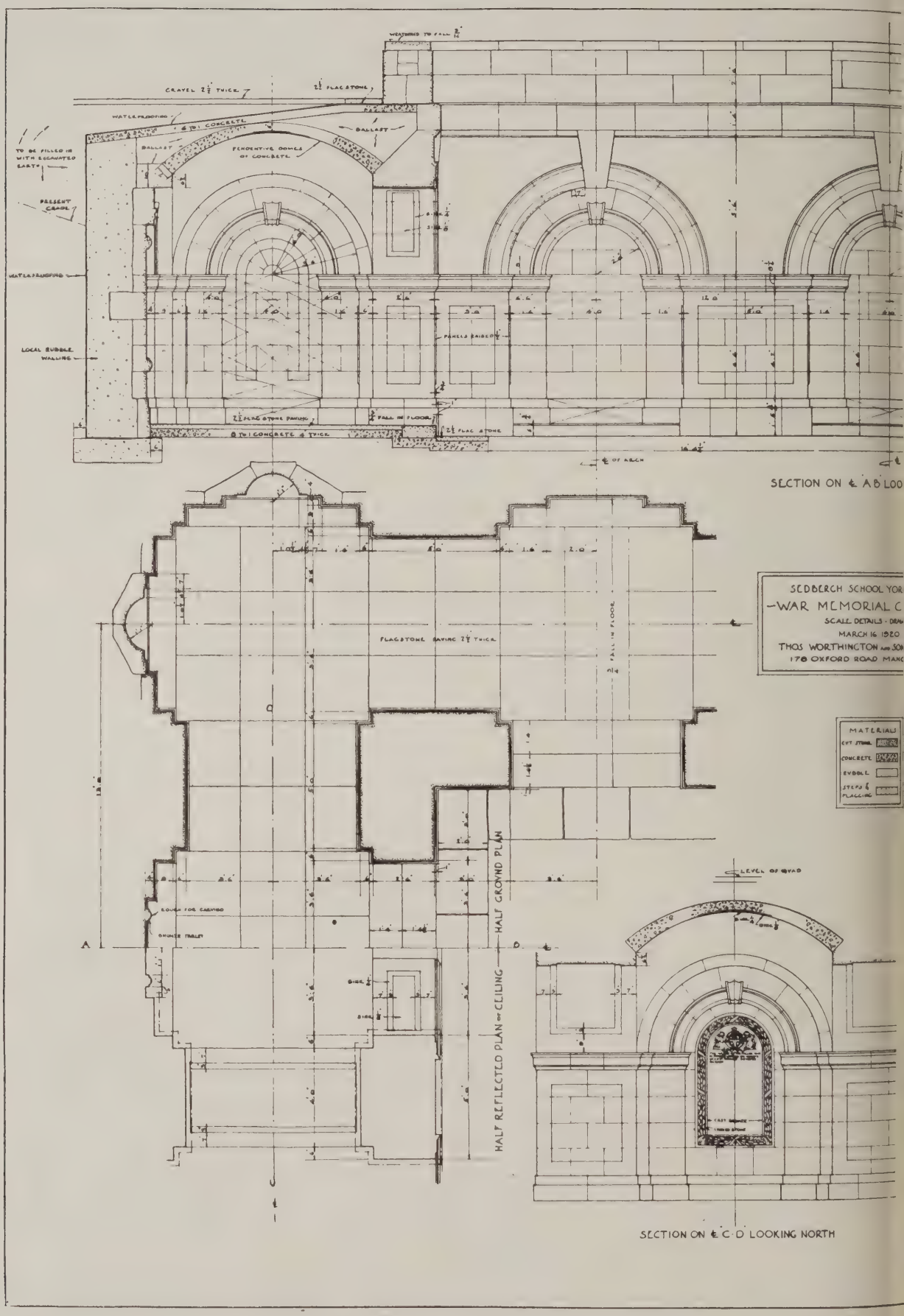
Architects' Working Drawings. 6.—

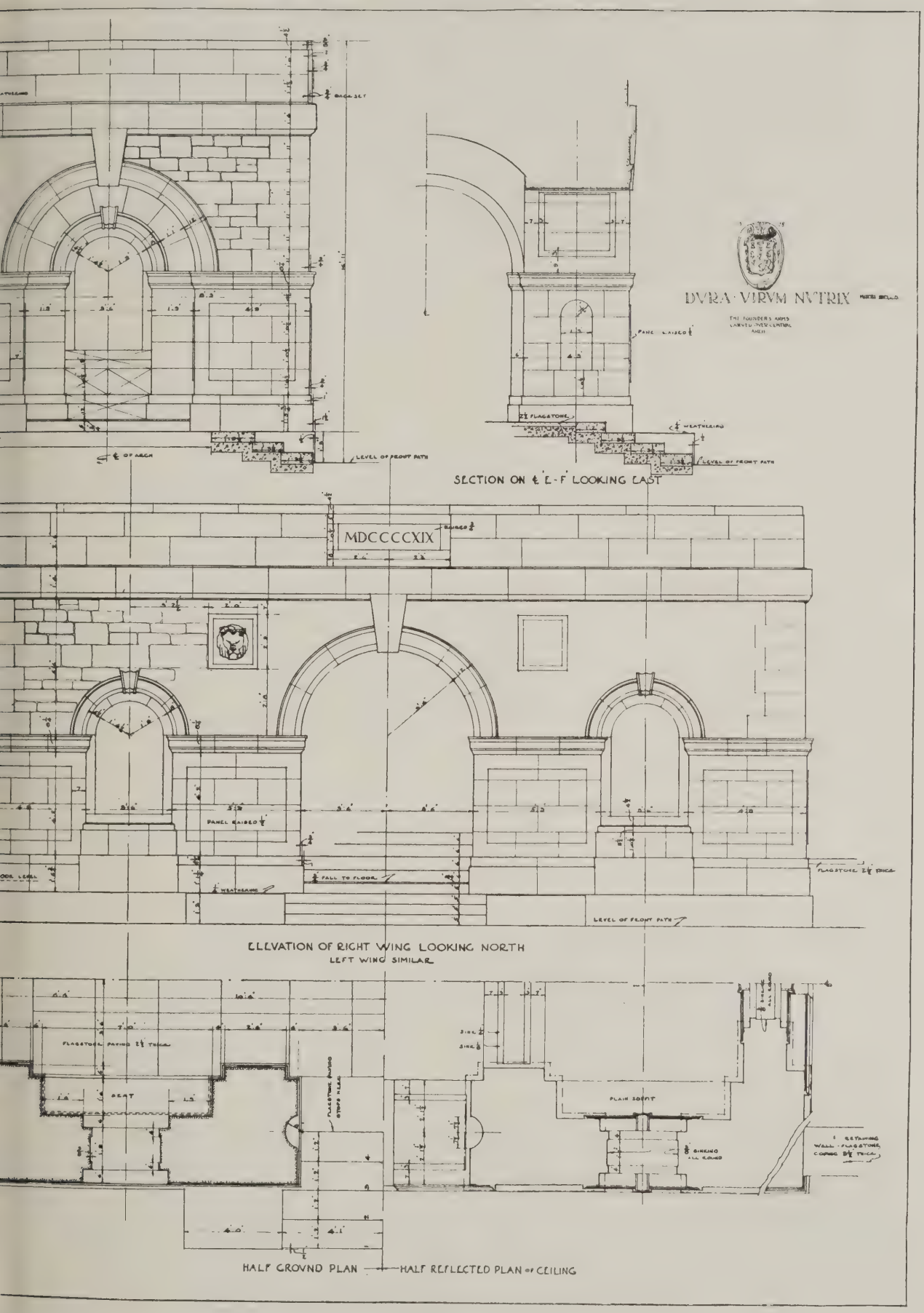
J. Hubert Worthi



A short description of the cloister appears under the plate on page 643. Access
opposite the exits from the class-rooms. On the wall at the base of the main a
Sir Edwin Lutyens's Great Stone of R

Sedbergh School Memorial Cloister

R.I.B.A., Architect



to the cloister arcade is obtained by two internal flights of steps, placed
ames of the fallen. In the centre of the cloister court is a replica of
heir name liveth for evermore."

Correspondence

Luxury Building

the Editors of THE ARCHITECTS' JOURNAL.

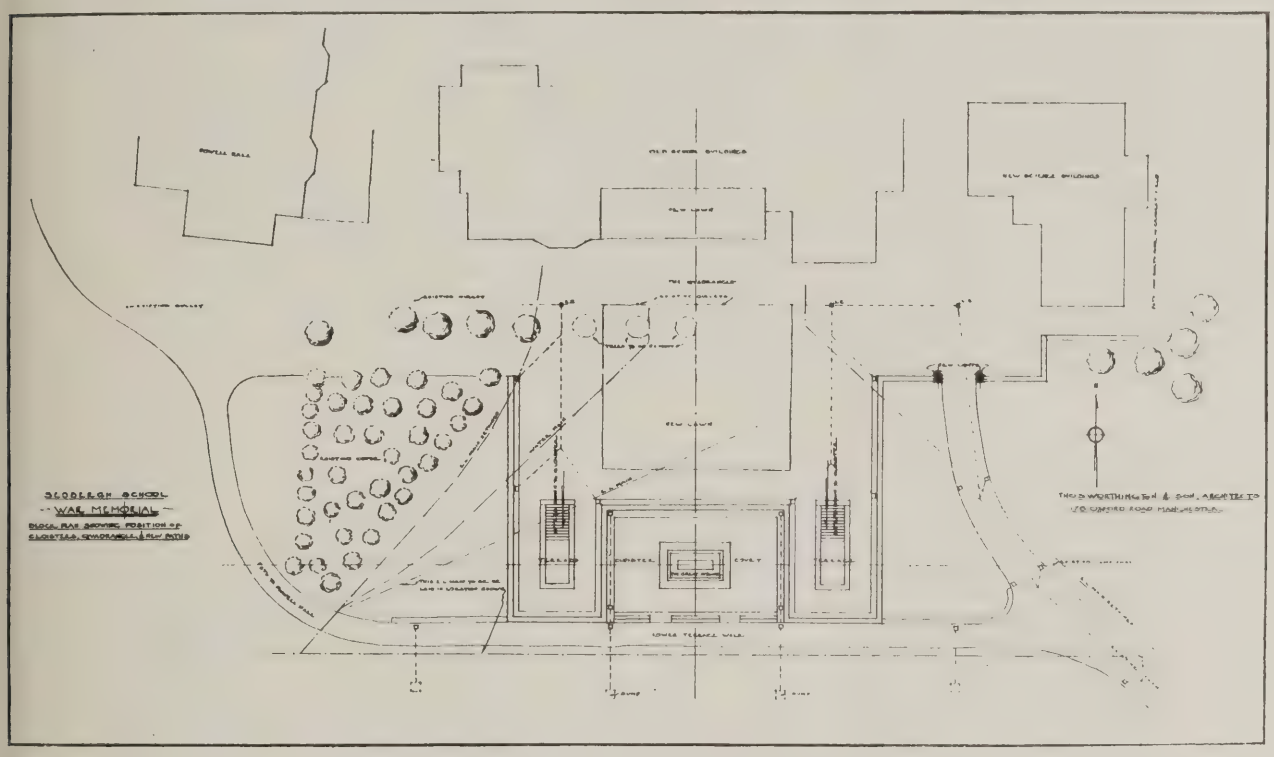
;,—Apart from the humane argu- that the homeless should be housed, e told that it is necessary to abolish ry building" because of the danger ustrial unrest.

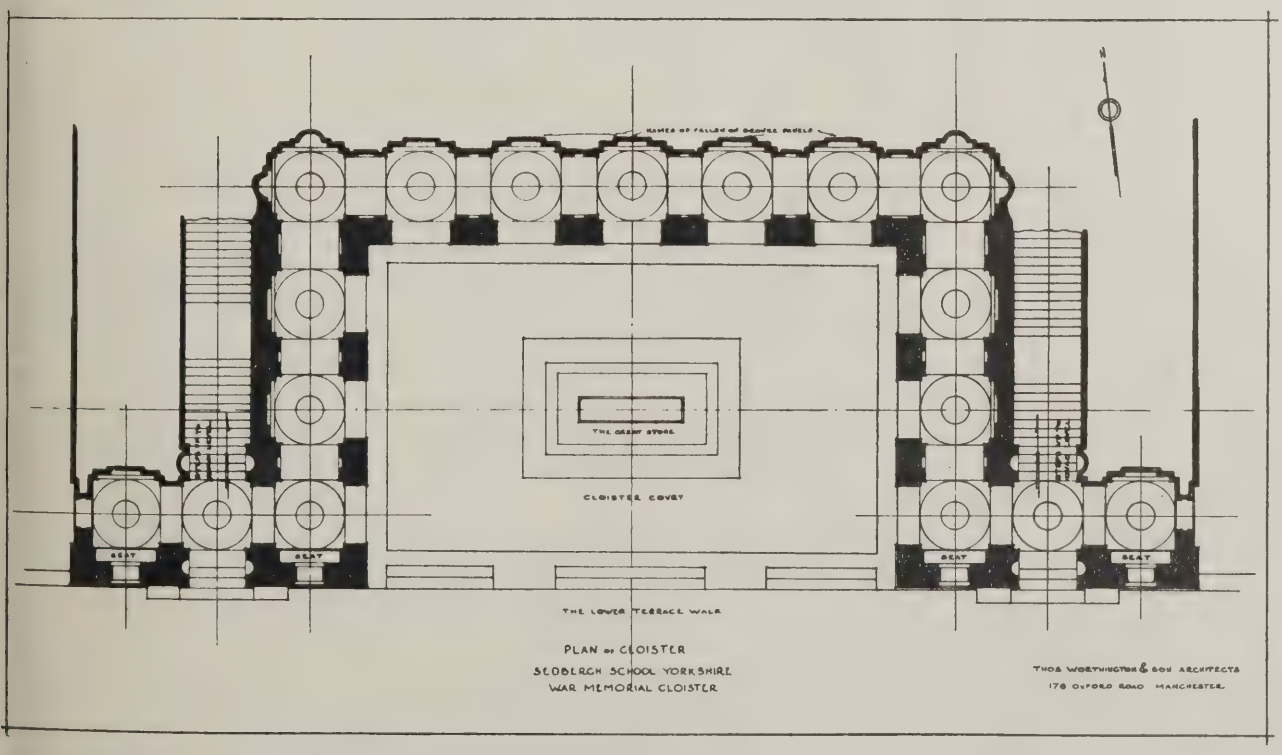
housing question has been so d in the Press that the labouring who hasn't a house has a real but fied grievance. Nevertheless, human is such that I cannot imagine riots being fomented by the workers who are in lodgings—their fellows are not in lodgings, so why should they riot? Strikes and such-like are generally caused when the majority of the labourers are sufferers, or are fearful of suffering.

It must be a dreadful existence for two families to live in one house, but will greater misery be caused if only cottages and utilitarian buildings are erected during the next few years? It certainly will be hard to define what is a luxury building. It will mean throwing out of work many asphalters, shopfitters, bell founders and bell-hangers, blind-makers, boiler-makers, brick workers of fine clays, as well as of glazed and moulded bricks, cut-glass workers, cabinet makers, wood, stone, and marble carvers, chimneypiece makers, and church fitters. But you have only to turn to an architects' compendium to discover dozens of trades which are not employed on cottages, and which will possibly be ruined if luxury building is prohibited.

Many brave warriors will be thrown out of work—including some of the pudlo men—for our products are used equally on luxury buildings and on cottages.

J. H. KERNER-GREENWOOD.





SEDBERGH SCHOOL WAR MEMORIAL CLOISTERS: PLANS. J. HUBERT WORTHINGTON, M.A., A.R.I.B.A., ARCHITECT.

Correspondence

(Continued).

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—There is admittedly a lack of houses under the local schemes; there is admittedly a lack of material and labour in the building trades; although one may hear, here and there, that there is plenty of labour, I understand it is most difficult to obtain bricklayers in many districts.

The shortage of houses for the labouring classes is a national danger, and the Government might have difficulty in excusing themselves if they allowed the building of amusement buildings to the detriment of labour and material for buildings of more useful purposes. This may be somewhat against our individual interests, as we frequently work on cinema, theatre, and music hall.

As, however, the expansion of trade and increased output is another national necessity, where firms can increase their business by extending manufacturing and warehouse accommodation, it is of the utmost importance that they should not be restricted from doing so, but this does not necessarily follow that a large amount of labour and material should be expended on reconstructing drapery and similar premises which are not required for nati purposes to the same extent as in m trades. The question obviously t upon the extent to which the restrict will be enforced. MANUFACTURE

Adding a Storey to Existing Small House

To the Editors of THE ARCHITECT JOURNAL.

SIRS,—After three years of effort on part of the Government, and a amount of debating and work on dra boards, we seem no nearer the provi

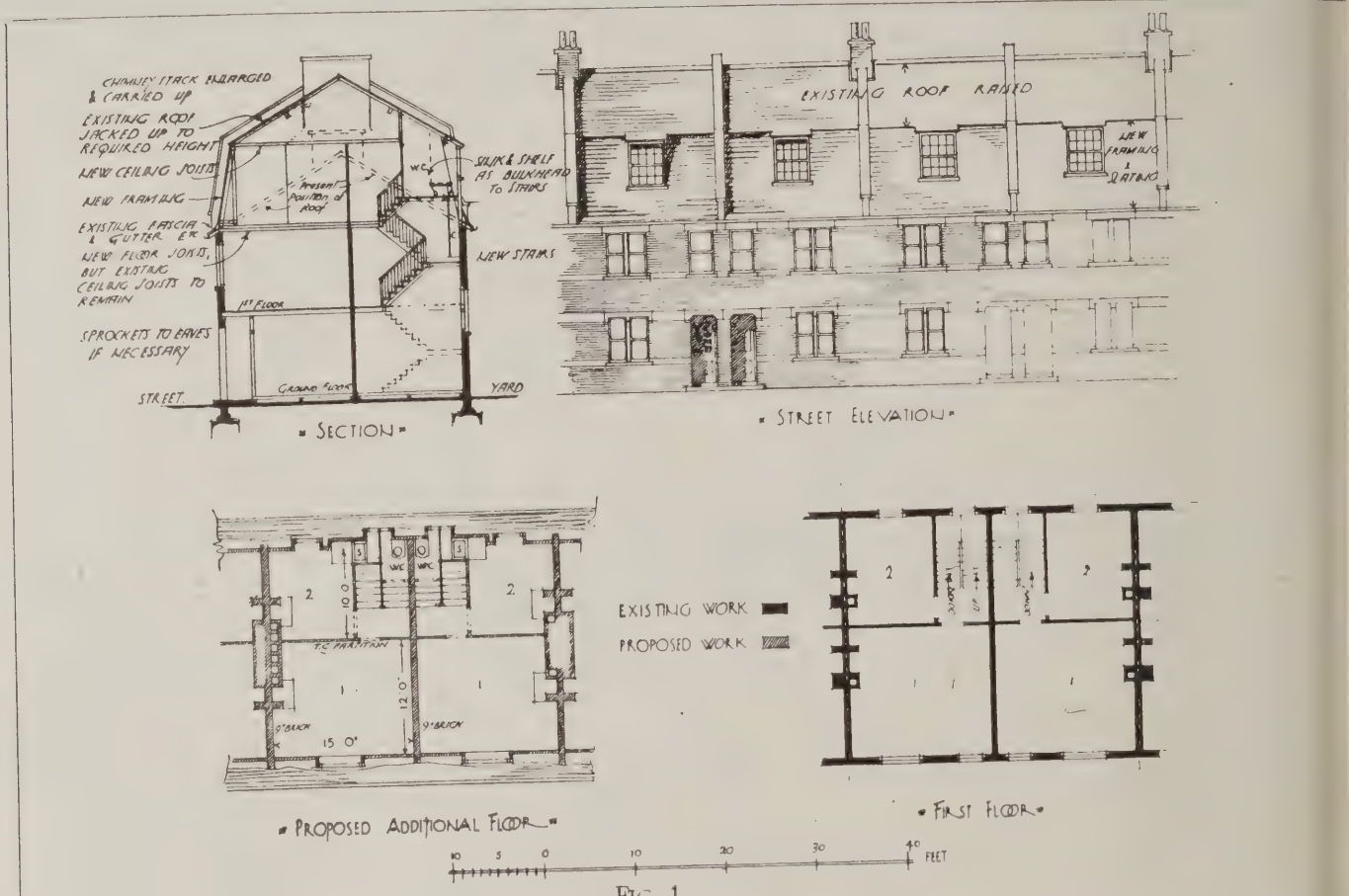


FIG. 1.

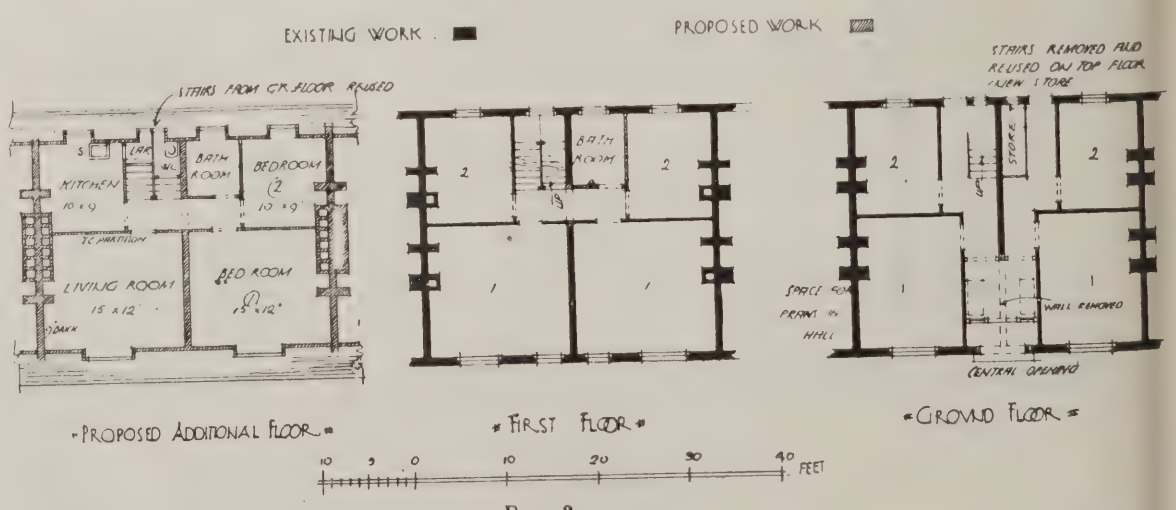
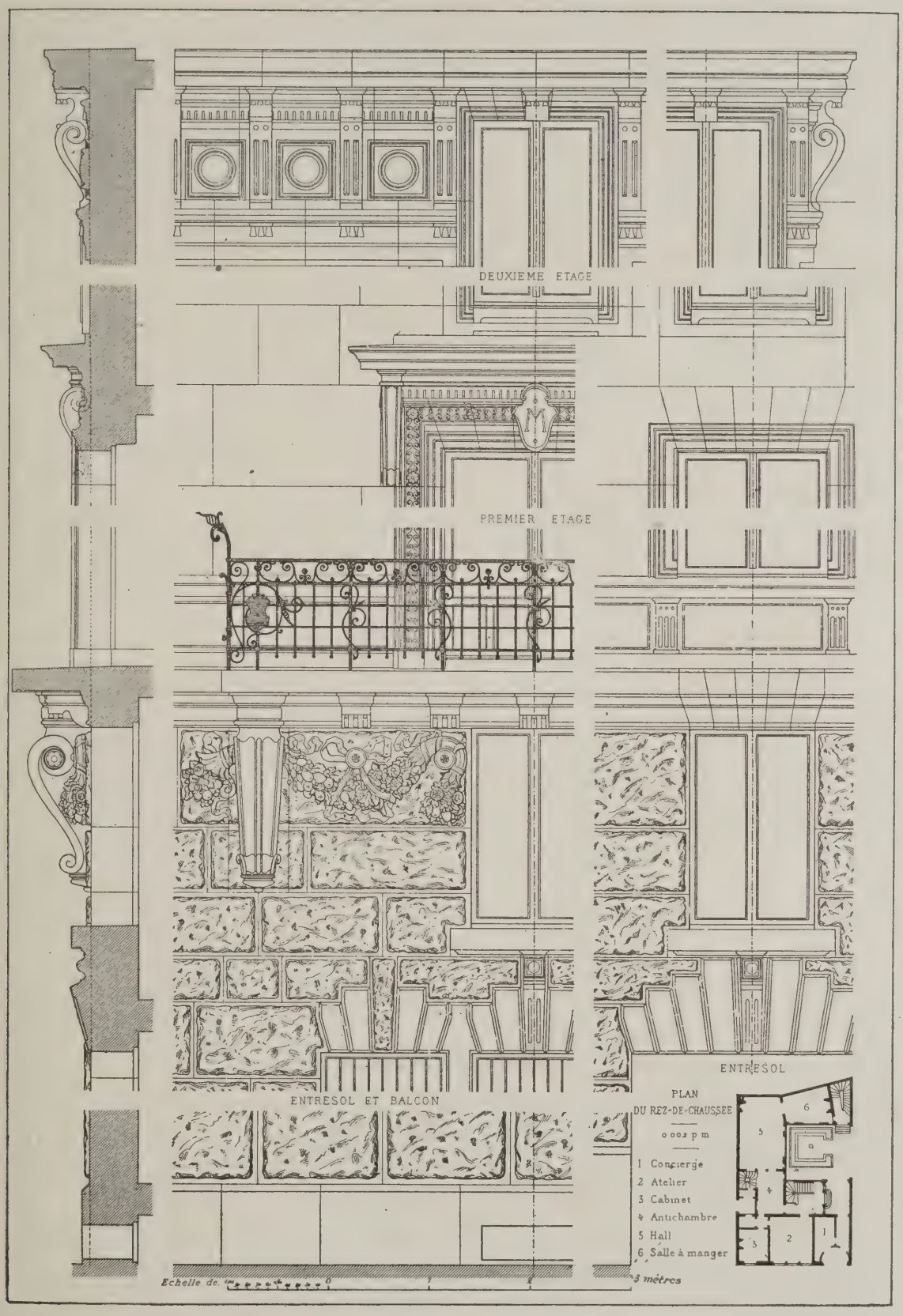


FIG. 2.

HOW TO INCREASE THE ACCOMMODATION OF EXISTING SMALL HOUSES. ALAN E. MUNBY, F.R.I.B.A., ARCHITEC

'rench Façades. 4.—Details of Façade of 36, Boulevard des Invalides

Charles Mewès, Architect



From these details it will be seen that the house built in Paris by the late Mr. Mewès for his own occupation is an exceedingly beautiful example of French Renaissance design, treated freely and with a certain touch of gaiety, which, however, does not detract from the exquisite refinement of the detail.

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an adequate supply of small houses. ırther, transit difficulties do not appear have been seriously dealt with at all, e congestion of normal traffic having yet be overcome. Hence it seems obvious at for some years greater use must be ıde of existing areas already built upon. I am no advocate of high buildings for r cities, in which light and air are such al essentials, but there is much two-ırey small tenement property, particu-ly in the east and south of London, uated on roads of reasonable width, ich might have an additional floor, and enclose a drawing suggesting how this ght be economically added.

Fig. 1 shows this addition as a mansard ich should be capable of erection in ıny cases without disturbing the existing ıants. Where such property has an linary pitched roof with its ridge rallel to the street, if a row of slates re stripped a few courses above the ves gutter, the rafters sawn through and purlins released at the party walls, the of might be temporarily tied and jacked when it would form a protection for the nates and workmen. Floor joists could en be inserted between the ceiling joists, party walls and chimneys raised, and mansard sides inserted. Slab plaster ıld be used to accelerate work and oid mess. The only brickwork would be ıt to the party walls, while the use of the old roof would reduce the carpenter's work. The cost of land, drainage, road-making and fencing involved in new property would be avoided. In the case of a house with a 16 ft. frontage and 28 ft. front to back as shown, two rooms would be obtainable, one 15 ft. by 12 ft. 6 in., the other 10 ft. by 9 ft., off which latter would be a raised sink with its own window in a cupboard over the stair, while the stair-head would provide room for a w.c.

This is no attempt to plan an ideal home, but would provide decent accommodation where it is most wanted, and would do much to relieve congestion. At the present time it seems likely that this addition to a single house would cost about £350, but if the scheme were applied to a street, the repetition work would be so considerable that appreciable reduction might be expected. The impregnation of the roof timber for a certain distance from the party walls to resist fire, as an alternative to raising these walls 2 ft. above the roof in the usual way, might be looked into with a view to economy and improved appearance.

Fig. 2 shows a rather more ambitious scheme applied to similar houses in pairs with staircases together. The suggestion here is the removal of one stair and the cutting of the party wall adjoining on each floor to admit of the use of the remaining stair by both houses. This would give a good "hall" 6 ft. to 8 ft. wide, with pram space on either side of a central recessed door. The stair space would give a bathroom or small bedroom on the upper floors, and assuming the usual back projections, this space on the ground floor would be at least available for storage. The added mansard storey could become a single suite of four rooms, with bathroom and closet. The one stair would still be ample to serve the two houses, while cleaning service common to the tenants—always a difficulty—would be reduced.

The discarded stairs could be utilised instead of providing new ones for the added storey. Even if raising the buildings were not considered feasible, this reduction of stairways by the combination of houses let as tenements, to give room for more useful accommodation, would be worth debating.

I have no doubt that many of your readers could make much more illuminating suggestions, but with ever-increasing prices and decreasing output it would seem that our only salvation—for the time, anyhow—lies in the direction of studying to improve our existing small house property. I am drawing the attention of the Ministry of Health to the matter and I shall welcome any constructive criticism.

ALAN E. MUNBY, F.R.I.B.A.

The Federated Builders' Code

2.—Bills of Quantities

By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

WANT to be quite fair as well as quite candid. The National Building Code, notwithstanding the defects with ich I am dealing, is on the whole a well-ıceived document, reflecting great credit its authors. It comprises: Part I—gulations to be observed in obtaining imates for, and entering into and carry-r out, contracts for building works in gland and Wales, which section con-ns eleven clauses. Part 2: General con-ions of contract. The definitions and erpretations of terms contain sixteen uses, whilst the Schedule of Conditions ıtains thirty-eight clauses of twenty-one ges of printed foolscap matter. There also articles of agreement, a tender m, and a list of contents occupying five ges. An index would add materially to usefulness of such a document.

The Code deserves the careful considera-n due to a serious attempt to solve a very ficult problem—one that has been to the e for some years. Considering the aracter of the experience gained by ilders in carrying out work during the r, and taking into account the obvious t that the Ministry of Health Housing ntract is, from the builders' point of w, a vast improvement on any previous m, it may be regarded as certain that ilders will not continue to carry out con-cts on the same basis as in pre-war days. As to how far the proposed code will ome a code in fact will, I imagine, end on whether the National Federa-n of Builders will obtain the sanction of members to some form of disciplinary ion against any member who fails to nply with its instruction requiring the of the Code. Should they obtain this sanction—if they have not already done so—it is reasonable to assume that no member could afford to ignore a mandate of this kind; for were he a general contractor he would be unable to obtain quotations from sub-contractors, and were he a sub-contractor he would be unable to obtain any work from general contractors. Further, pressure could be brought to bear upon merchants supplying goods to a recalcitrant member. I do not say that they would adopt such coercive measures, but it is quite obvious that they have the power to apply them. This power the professional man must recognise and face the situation squarely. Let me add, however, what should be equally obvious, that the ultimate success of the Code depends on whether its terms are equitable and reasonable, and not on the power of the National Federation of Building Trades Employers to enforce its adoption.

The Code is too voluminous to admit of analysis in detail. Some of the clauses are ambiguous, others contradict each other: these should be redrafted. Exception could be taken to many of the provisions in the conditions, but even these could be whittled down to acceptance at a round-table conference. The great stumbling-block is when some condition runs counter to principles. These are not so easily overcome. My comments will be directed towards this end, with the object of bringing about a better understanding. All will agree that this is a very desirable consummation.

I have already touched upon the principles involved in regard to the question of requiring from the employer warranties of plans, designs and schemes, and bills of quantities. I now propose to deal with the questions of: (1) The preparation of contract drawings before the bills of quantities are prepared, and (2) the preparation of the bills of quantities.

Clause 1, Sub-Clause (b) of the Regulations requires that "The architect shall, *prior to the preparation of the bills of quantities*, prepare the necessary plans, sections, elevations, and details or other drawings, to be known as the contract drawings . . . to enable the surveyor, with reasonable accuracy, to measure and prepare therefrom detailed bills of quantities." This is a case in which the Federated Builders seek to dictate to the architects the manner in which they shall perform their work, or at least it is an effort to establish a mode of procedure in the preparation of the drawings. In so far as architects are concerned, many proposed works are of a purely speculative character, and in a large majority of cases the working drawings are not prepared until the contract is signed. They adopt this course for the simple reason that, in the event of the work not being proceeded with, they possibly may not obtain any recompense for their labour. This precaution may not be sound policy, but it is fairly common practice and therefore should be taken into consideration The builders imply that the surveyor must be supplied with working drawings and details from which to prepare the bills of quantities with reasonable accuracy. Whilst admitting that working drawings and details would be a decided advantage to the surveyor in the preparation of bills of quantities, I hasten to add that it does not follow in practice that they would ensure greater accuracy in every

instance. An experienced quantity surveyor checks and tests the drawings as to their accuracy and as to the soundness of the construction they represent; but working drawings and details are no guarantee of accuracy, and the surveyor, when they are supplied, is apt to regard them as such.

Bills of Quantities—

Bills of quantities prepared by experienced and capable surveyors leave the builder but little ground for complaint. The trouble arises when they are prepared by inexperienced persons of average ability. There is much to be said in extenuation of the builders' demand on this point, for they cannot always know under what conditions and by whom the bills of quantities are prepared—occasionally, perhaps, they may be got out by a junior to try his 'prentice hand, and because such work happens to be good practice in the study of construction. Further, the quantities may have been "taken-off" from unfinished plans, an incomplete scheme, and an absence of definite and explicit instructions and detail in some particulars, because at this stage the architect may see reason to believe that the job is too speculative to warrant his going to further trouble and expense. The scheme may be revised—perhaps only slightly, merely in minor arrangement and detail—when the architect, acting with all good faith, on the assumption that one thing will set off against another, deems it unnecessary to amend the bills of quantities. In the actual execution of the work, the builder may discover certain items in the bills of quantities that do not appear to be shown on the drawings, or that certain things appear on the drawings and are not mentioned in the bills of quantities. This discovery may lead him to question the other items in the bills of quantities, but to test these he must needs measure up the work, and this can only be done at considerable trouble and expense to himself. If the builder finds that he has legitimate claims for extras on this account, he knows that this will react against the architect, and that the architect may resist the claims rather than face his client, the employer, with a bill for extras that he cannot justify as a variation or addition to his plans. To the average builder this is not an enviable position; and if he presses his claims, strained relations with the architect may result. This may be cited as a very good reason why the builder takes exception to the R.I.B.A. agreement, in which it is provided that the architect or surveyor named therein shall measure up and value the variations and prepare the final accounts without reference to the builder. This practice is not always strictly observed, but in those cases in which it is put into operation the builder suffers pecuniary loss. It must be conceded that from the builders' standpoint the Code, in demanding that the bills of quantities shall be prepared from the working drawings and details, is a sound one, because it ensures reasonable accuracy.

Although many architects prepare the working drawings and details prior to the preparation of the bills of quantities, this practice is by no means general. When it becomes so architects will be less ready to undertake speculative work.

Clause 1 of the Schedule of Conditions requires that the architect shall supply the contractor with a set of contract drawings signed by the employer, architect, and the quantity surveyor, and one further complete set free of cost, and two copies of such further drawings and/or details or written instructions, together with any explanations; which means that the architect will be put to extra expense.

The builders do not, however, require a specification for the works. Specifications, therefore, will only be of secondary importance, for "the descriptions of the various items therein contained shall be consistent in every respect with those set out in the bills of quantities." Again, Clause 7 of the Definitions and Interpretations of Terms makes no mention of the specification in defining "the contract as meaning collectively the signed agreement and form of contract, including the regulations and conditions, the contract drawings for the works, the bills of quantities supplied to the contractor for the purpose of estimating, and the contractor's tender for the works."

—And the National Standard

From a perusal of the Code, one gathers that the bills of quantities supersede the specification, and that the bills of quantities will form an important part in building contracts, should the works exceed in value £1,000. There is no stipulation that bills of quantities shall be prepared for works of less value than £1,000. The reason for this will be clear when it is borne in mind that the bills of quantities are to the builder what the drawings are to the employer. They are the component parts of an agreement between them. For the purposes of the contract the drawings are symbolical of the least the employer will be content with from the builder. Therefore, the bills of quantities must be an accurate representation of them, indicating the least the builder will be content with from the employer. Dismiss for the moment any references to what each party, particularly the builder, values the work at; then you get a true perspective of Clause 2 of the Regulations, Sub-Clause (a): "The bills of quantities for the works shall be prepared in accordance with the National Standard method of measurement, and the measurements shall include all customary allowances usual in such measurements in the individual trade; and they shall include all items of material and labour required for the due execution and completion of the works as shown on the contract drawings." Omit the words "and the measurements" down to "trade" as being superfluous, for we may assume that "the National Standard method of measurement" would embrace this, otherwise it would be a failure. Blazoned forth and carved in letters in bold relief: "Bills of quantities shall be prepared in accordance with a National Standard method of measurement," might rightly be termed the "Charter of the National Federation of Builders," for this must be conceded and granted as a right, not as a favour. Let there be no mistake—nothing else really matters. It is the kernel and crux of the situation. Modify the Code as you will, but do not attempt to destroy this, the basic principle of the Code. Grasp its significance, and you have the key to the Code—its intention, purpose, and object: an irreducible minimum. Why? Because the bills of quantities represent the things that the contractor *exchanges for cash* in a transaction. It is all that the Code stands for, and its provisions are nothing more than to ensure proper protection to a builder in such a transaction. Hence, the charter has a potential cash value to the contractor, because it is *the thing* in the transaction; it forms the basis of the contract, for there shall be nothing in th plans, or any other document—even th Code—but what shall be truly and fully re presented therein, and it shall embod everything that can in any manner or for sensibly influence the costs of the worl Together with the contractor's schedule o prices, it shall be the means of arriving a the final adjustment (extras and vari tions) of the contract.

Unfortunately a "national standard" non-existent. Yet the Code implies th there will be a national standard when comes into operation.

(To be concluded).

The Royal Society of British Artists

It is pleasant to see the Royal Socie of British Artists again well-establishe in their old galleries in Suffolk Stree Pall Mall.

On the walls there are certainly a fe self-assertive and primary coloured work which catch the eye, but the great majorit are carefully drawn and coloured, and ar of good composition—notably Mr. Cli ford's and Mr. Black's landscapes.

Mr. Foottett's "Apple Orchard," (No 215) is so decidedly beautiful that th longer we look at it the more luminous becomes.

The "Path by the Cliff" (No. 194) i Mr. Elphinstone at his best. Nature i shown at her hardest. The towering cli is grandly massive, and the path by th edge is for the brave alone.

Certain of the landscapes are poeti renderings, but lack concentration o interest. This charge, however, cannot b brought against Mr. Hely Smith's "Res lessness" (No. 140). A great translucen sea wall is about to come down with deluge upon the smooth and deadly back wash. Rightly, the rest of the picture doe nothing more than bring the eye back t the mighty billow.

Character sketches have not been we represented in the past at the R.B.A., th Society being renowned for its humanle placidity; but in No. 247, from the bru of Mr. Reginald E. Higgins, "Some Foxe and a Grape," the small boy's expressio is exquisitely humorous. Mr. Blamir Young's contribution (No. 51), "These o the Arches," is another fine characte study.

There are two Madonnas of the country One by the President, No. 153, and th other by Miss Dorothea Sharp (No. 292 Mr. Solomon is a master of idealism, wit superb craftsmanship, making us long t see and work as he does.

Mr. Ince contributes some carefully drawn little pictures. "Sleepy St. Ives (No. 177), is somewhat cold in tone, bu would be a good picture for the home.

Mr. John Austin shows two clever draw ings (No. 239). "Pierrot" is a masterpie of penmanship. Architects who cultivat the T-square and dread freehand shoul study this little masterpiece. In hi "Atalanta" he has achieved his end b the juxtaposition of perfectly flat colours

"The Echo" (No. 162), by Mr. Horac Taylor, has a human touch. Mr. Georg Carline presents a most carefully-drawn and coloured interior, with a very asser tive organ case and coloured west window How much better it would have been t fill the stalls with the college in full ses sion during some great festival, for is no architecture but the handmaid to man?

We have two renderings of Richmon Bridge. No. 151 is by Chugi Kurihara

s painfully out of architectural ng, and yet the work is pleasant and ful, for it is redeemed by its beauty ouring, reminiscent of Turner and wyn. The other, by Mr. Muirhead 304), is more architecturally correct, ne point of view is unfortunate, gh the little peep through the arch that can be desired, and if the rest een painted in the same spirit the would have been well worthy of the

Mr. A. E. Henderson contributes rchitectural studies, Nos. 281 and His North-West Tower of Wells dral is an admirable piece of work, ng out clearly the structural lines ne mass of the great fabric, and at me time a beautiful study of colour one, contrasted and set-off by the mown lawn and the showery sky. s joined the Perpendicular and the English portions harmoniously, and unity to the composition. His in- of the Temple Church is more of a , but shows the same knowledge of ure. The composition and colouring ber and pleasing.

are charmed with Mr. Barry Pittar's tic London Street Architecture. His white Royal Exchange and Bank of nd (No. 107) has a spontaneity is refreshing, and his Staple Inn 13), is equally vigorous. Mr. W. rd Rilly has pleasantly departed his little watering-place seascapes. ives a vigorous sketch from the loft of the Albert Hall (No. 105), a Peace festival. He is to be con- ated on his masterly perspective and ever manner in which he has indi- the concourse of humanity.

he Portraits, Mr. Roberts has pro- in No. 299 a strong likeness of Mrs. Roberts. Mr. Otway McCannell a pleasant sketch of a head in No. nd Mr. D. Jaffer has done excellent and Mr. H. G. Theaker's carefully- d water-colours should be men-

Miniaturists do not appear to be d by modernism. "An Old Master" 3), by Mr. Enoch Ward, requires g at carefully, and the portraits by Underwood should give pleasure to ssessors. Mrs. Brunton's Egyptian s are missed.

ing the exhibition as a whole, we say that the members found plea- n their craft. This being so, we that the majority of the pictures ent brain-work rather than mere al labour. It makes us feel glad that e have found men who are still con- do one thing well at small or any eration in preference to the tempta- f easy repetition.

blications Received

d Crosses and Lychgates." By Vallance. (B. T. Batsford, Ltd., gh Holborn, London.)

e Foundations of Classic Architec- By Herbert Langford Warren. 32s. net. (Macmillan and Co., St. 1's Street, W.C.2.)

am Boiler Construction. Rules of tional Boiler and General Insurance Ltd., with Notes on Material, Con- on, and Design of Steam Boilers Similar Vessels." By Edward G. , B.Sc., M.Inst.C.E., M.I.Mech.E., engineer to the company. Second , revised and enlarged. Price ; bound full cloth 5s. net. The al Boiler and General Insurance td., National Buildings, St. Mary's age, Manchester.

Rivetless Steel Roof Construction

A very notable development in the construction of steel roofs and stancheons has been practically demonstrated by the Welded Construction Company (proprietors of Industrials, Ltd.), who invited a number of architects, engineers, and contractors to visit the factory (now being erected) of Messrs. Stelfast, Ltd., at 53, Effra Road, Brixton, S.W., to inspect the rivetless steel construction used in the buildings, and some specimens of roof trusses of a similar description, forming part of a contract for Olympia, Ltd. Although electric arc welding is now largely employed by ship repairers, who have proved its practicability for a variety of constructional purposes, its adoption by the building industry is only just beginning to be considered.

Particularly important, therefore, is this pioneer work at the Brixton factory, in which the whole of the constructional steelwork has been assembled and erected by "A.W.P." electric welding. As this is the first example of welded truss work on a practical scale in this country, the following particulars should prove of special interest to architects and constructional engineers. The factory itself is a modern brick building arranged on one floor and covering an area of about 22,000 square feet. There are ninety-three trusses of 19 ft. span in the roof, which is of the north light type, and these are supported on H-section stancheons and joists. Not only were these trusses constructed without the aid of either rivets or bolts, but, in addition, the cap and base plates were welded to the stancheons, the joists welded to the cap plates, and the completed trusses welded in their turn to the joists, in the same manner. Cleats were also welded to the top sides of the trusses to carry the timber purlins for the attachment of the roofing and glazing.

In execution the procedure followed was to cut the stancheons to the required length and weld to them the cap and base plates before erection. The joists were then hoisted on to the stancheon cap plates and held in position by clamps while being welded. In constructing the trusses the steel bars and angles were cut to dimensions on the site. These were then dropped into a jig of simple type and clamped together while the joists and gusset plates were welded up. Skilled men were to be seen operating the electrodes, which were directed to the surfaces to be welded and then drawn along as the work proceeded. The process necessitated protection for the eyes, which was afforded by screens of coloured glass held in the hand by visitors and operatives alike. A guaranteed homogeneity between the welded surfaces is secured by making the electrode of the same constituent parts as the metals being welded. The melting of the electrode is assisted by being covered with an asbestos flux, which seals the molten metal and protects it from contact with the atmosphere. On the application of the current, after contact has been made between the electrode and the material to be welded, an electric arc is produced which fuses the electrode and both contracting surfaces of the parts to be connected. Under ordinary circumstances the average temperature attained in the process is 1,500 degrees Fahr.

Electrode metal may, and often does, vary in its composition from mild steel to high speed steel for tipping tools, and even manganese steel. Electric arc welding may also be applied to cast iron, which has hitherto not proved amenable to the process of welding, owing probably to the property it possesses of developing local variations of temperature

The roof trusses for Olympia, Ltd., to which reference has already been made, are part of an order received by the Welded Construction Company to construct and erect a steel building to be used as stables for the Royal Horse Show and the Royal Tournament. All the necessary girders, angles, etc., were available in London stock, and were immediately cut to length. Meanwhile a welding jig was constructed for the production of the trusses, by means of which two welders and four labourers were able to attain an output of ten completed trusses per day. As giving some indication of the speed with which such welded construction can be carried out, it may be mentioned that although the order was not placed with the company until April 27, the whole of the stancheons, joists, and roof trusses were delivered on the site ready for erection by the 12th inst. The only bolts which will be used in connection with this steelwork are those necessary for securing the stancheons to the concrete floor. It is claimed by the Welded Construction Company that the rapidity of construction is very greatly increased by the adoption of their system of electric welding, and from the data which they have collected in the execution of their latest contracts, they have furnished comparative figures, according to which it would appear that by the elimination of drilling, bolting, and riveting, and the substitution of "A.W.P." welding, a saving of 50 per cent. can be effected on the cost. In the course of numerous tests carried out by Messrs. David Kirkaldy and Sons, it was established that the average tensile strength of twelve butt welded pieces of ship's plate—varying from ½ in. to 1 in. in thickness—was 27.3 tons per square inch, and that in eight cases out of ten the original plate broke without the weld giving way.

The Architecture of Robert Adam

In the second Cantor Lecture given at the Royal Society of Arts last week, Mr. Arthur T. Bolton, F.S.A., F.R.I.B.A., continued the account of Robert Adam's remarkable career, dealing more in detail with a selection of his private house works in London and the country. Commencing with Hatchlands and Shardeloes, Harewood, Kedleston, Syon and Kenwood were successively shown by a series of lantern views. Lansdowne House and the less well-known Home House in Portman Square were then described, and a number of the original drawings for the latter work were shown on the screen with some photographs, showing how closely the work was carried out to Adam's design. In conclusion, two views of Charlotte Square, the last and much altered work of Adam in Edinburgh, were given, and two fine exteriors of the towers of Mistley Church in Essex, which were saved when the church itself was unfortunately rebuilt during the Gothic revival.

In his first lecture Mr. Bolton outlined the general position in English architecture at the time of Robert Adam's return to England from the Grand Tour, and referred at length to the work of the famous brothers as house builders.

The Week's News

(*Concluded from page* 636)

Bequest for Town Hall.

Mr. William Meek has left £25,000 for the erection of a new town hall in Hamilton.

Increased Housing Subsidy.

The Government have increased the housing subsidy to private builders by £100 per house.

Rheims Cathedral.

For the rebuilding of Rheims Cathedral Denmark has collected more than one million francs.

Housing at Epping.

The Epping Urban District Council is asking for tenders for a loan of £8,000 for housing purposes.

Montrose War Memorial.

The war memorial to be erected at Montrose is from designs by Mr. Kinross, architect. The sculptor is Mr. H. S. Gamley.

Building Trade Wages.

An increase of 6d. an hour is being demanded by workers in the building trades, making the rates for skilled men 2s. 6d. an hour and for labourers 2s. 3d.

Milan Sample Fair.

Cork is largely used in house-building in Italy, and exhibits of a mixture of cork, tar, and other ingredients convertible into bricks for linings, walls, pavements, and roofing were on view at the Milan Sample Fair.

Manchester Building Guild.

Manchester Corporation has invited the Building Trades Guild Committee, which recently entered into a contract to build 1,000 houses for the Irlam District Council, to tender for a contract to erect 430 houses on the Clayton estate.

Easington Housing Scheme.

Easington R.D.C., Durham, has a housing scheme for 1,000 houses ready for commencement, but lacks the necessary funds. A vigorous campaign for three-quarters of a million housing bonds is being conducted in the district.

Barnhill Garden City.

Messrs. Maclaren, Sons and Soutar, Dundee, are architects for the Scottish Veterans' Garden City at Barnhill. Each block consists of two dwellings containing three rooms and bathroom. One type has two storeys, another type is a one-storey block.

Forfar War Memorial.

Mr. T. R. Soutar, architect, has had his design for the war memorial at Forfar approved by the Royal Scottish Academy Committee. It is an outlook tower, Scottish baronial, square at the base, and rising 50 ft. in rectangular form, diminishing gradually towards the top.

Ascot Grand Stand.

Owing to the new restrictions on "luxury buildings," the contemplated removal of the present Grand Stand at Ascot and the substitution of something more in line with modern requirements has been definitely abandoned. Much of the ironwork and other necessaries had already been ordered.

Architectural Appointment.

Mr. F. F. W. Grant, architect, of London, has been elected by the Archdeacons and Rural Deans of the Diocese of Canterbury to succeed Mr. W. J. Jennings as surveyor under the Dilapidations Acts. The election has been confirmed by the Archbishop. The appointment lasts five years.

Building Materials.

Dr. Addison announces that inquiry into the existence of combines in building materials, which are stated to be inflating the cost of building by arbitrary restrictions on competitive prices, is being made by the committee appointed under the Profiteering Act. The report of the committee will be available shortly.

A Housing Question.

The Lord Chief Justice, Mr. Justice Darling, and Mr. Justice Sankey have decided that a man who does work in his spare time for a particular person is in the employment of that person, and can, therefore, be placed in a cottage belonging to his employer, though the latter may, for that purpose, have to eject somebody from the dwelling.

East Kent Building Strike.

The whole of East Kent is involved in a strike of some 5,000 workmen (members of the Builders' and Decorators' Federation) who have recently "downed tools" on a demand for increased pay. The strikers are bricklayers, carpenters, joiners, painters, and decorators. They demand a forty-four-hour week at 1s. 11d. per hour, an increase of just over 14s. per week per man.

Onslow Garden Village.

Foundation-stones have been laid at the Onslow Garden Village. The scheme, which is on co-partnership lines, comprises 646 acres, and the amount paid for the land is £38,000. Fifty acres will be occupied by factories, churches, institutes, and hostels, but no public-houses will be erected. The houses average five to the acre, and will be erected by direct labour.

Improvement of the River Cart.

Notice has been given by the Paisley Corporation of their intention to apply to the Secretary for Scotland for a provisional order empowering them to take over compulsorily the undertaking of the trustees of the Cart navigation, and to erect a new swing bridge across the River Cart at Inchinnan, in place of the present bridge there. The present bridge has a width when open of only 40 ft. Plans for a new bridge provide for an opening span of 90 ft. and a roadway 30 ft. in width, capable of carrying a load of thirty tons. The cost is estimated at £54,000.

R.I.B.A.: Proceedings of the Council.

The Council of the R.I.B.A., at their last meeting, unanimously endorsed the President's letters to "The Times" on Government restrictions on building, and decided to take further vigorous measures to protest against the Government's policy in regard to the building trade. A letter was sent to the Canadian Government strongly protesting against the treatment of the successful competitors in the first stage of the Ottawa Government Buildings competition. Professor S. D. Adshead, Professor Patrick Abercrombie, and Mr. W. Curtis Green were appointed to represent the R.I.B.A. at the Inter-Allied Housing Congress. The Council voted a donation of £500 to the A.A. Endowment Fund, in addition to the usual annual grant of £100. The Council vetoed the following competitions: Cleethorpes Peace Memorial, Arthuret War Memorial, Wards Hill Improvement (Batley), Lockerbie War Memorial, and Hornsey War Memorial. The Council purchased for the R.I.B.A. Collection James Green's portrait of Augustus Charles Pugin.

Trade and Craft

Artificial Stone.

A new company, called Messrs. Ge Forrester, Ltd., has been formed Glasgow to supply artificial stone suit for plain or ornamental building. W are being completed for the compan Farm Cross, Rutherglen, from whic large output of the stone is anticip shortly. The stone is claimed to r atmospheric ravages, to be pleasing in pearance, and economical in use.

Winget Concrete Machinery.

Messrs. Winget, Ltd., of 24, Grosv Gardens, Westminster, S.W.1, have is a new edition of their catalogue on ch spade concrete mixers. In operating mixer the aggregate and cement are into the fixed measuring hopper, thence by one movement of the lever, w raises a sliding door for the purpose, emptied direct into the mixing tro Here they come immediately into co with the revolving chain-spades and quickly mixed. The principle of chain-spades, their spacing and the co design and arrangement of all parts, claimed to ensure a perfect mixing in to fifteen revolutions, equal to th seconds. Oil power, or a belt or ele motor may be used to drive the mixer. company's concrete block and slab ma machines and chain-spade concrete m are claimed to be in daily operatio almost every part of the globe. It is resting to note that the recent sales of s hundreds of "Winget" concrete machi acquired by the Government for hou schemes at national shipyards realised the average very little less than the orig price paid for them. These mach chain-spade mixers as well as con block-making machines, carried out du many months a great deal of useful work. The pallets also realised prices.

An Interesting Mayfa House

An up-to-date town house, No. Stratton Street, Mayfair, which is t offered for sale by auction on June 1 presents the joint efforts of a numbe eminent artists and craftsmen. E detail, from the rain-water heads to cupboard hinges, was thought out the following met at "The Old Che Cheese" to discuss the work with architect, the late Mr. C. J. Ha Cooper, F.R.I.B.A.: The late Mr. Sti Lee, and Messrs. F. W. Pomeroy, F and Arthur Walker, sculptors; Mr. Ar Walker, mural decorations; Mr. N Dawson, metal worker; Mr. W. S. F wood carver; Professor Selwyn Image Slade Professor of Fine Arts at Ox University, and Mr. Christophen W designers of stained glass; and the late Graham Nicholas, designer. The h in the Tudor-Renaissance style, was signed about twenty years ago, took s years to complete, and provides all mo convenience to satisfy every need. auctioneers, Messrs. Hampton and S Ltd., of 3, Cockspur Street, Lon S.W.1, have issued a booklet which with the property in a very intere manner, and which contains excellent ings of some of the special features of house. The booklet is admirably duced, and is the best we have seen de with auction particulars.

Current Prices of Materials

ON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of nd are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
ATOR AND CONCRETOR	
or, 1s. 9d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. 6d. per yd. cube.
, 1s. 9d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
s. 9d. per hour.	In stiff clay, add 50 per cent.
an, 1s. 10d. per	In underpinning, add 120 per cent.
r, 1s. 10d. per	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
in, 7s. per shift.	Headings, including timbering, add 400 per cent.
brick or stone,	Return, fill, and ram, ordinary earth, 3s. 3d. per yd.
's. per yd.	Spread and level, including wheeling, 3s. 4d. per yd.
ballast 19s. per yd	Planking, 6d. per ft. sup.
el, 20s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
22s. per yd.	
sand, 23s. 6d. per	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 9d. per yd. sup.
ballast or gravel,	Do. 6 in. thick, 4s. 6d. per yd. sup.
per cent. per yd.	Puddling, 36s. per yd. cube.
breeze, etc., prices	Cement concrete, 4.2.1, 58s. per yd. cube.
ng to locality.	Do. 6.2.1, 53s. per yd. cube.
cement, 80s. per	Do. in upper floors, add 12½ per cent.
small lots, ex	Do. in ferro concrete work, add 20 per cent.
stock, 100s. per	Do. in underpinning, add 50 per cent.
	Lias lime concrete, 48s. per yd. cube.
, 70s. per ton.	Breeze Concrete, 35s. per yd. cube.
harged extra at	Do. in lintols, etc., 5s. per ft. cube.
each and credited	
eturned at 2s.	
t hire per day:	
nd horse, 28s.	
motor lorry, £6 15s	
lorry, 5-ton, £6.	
, 32s. 6d.	
roller, £4 10s.	
cart, 30s.	
R.	
, 1s. 9d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 3s. 3d., 6-in. 4s. 10d., 9-in. 6s. 6d. per ft.
an, 1s. 10d. per	Cast-iron drains, jointed in lead, 4-in. 9s., 6-in. 15s. 3d., 9-in. 26s. 6d. per ft.
er, 2s. 0½d. per	Note.—These prices include digging and filling for normal depths, and are average prices.
2s. 1d. per hour.	
n, 7s. per shift.	
e pipes, tested	
4-in. 3s., 6-in.	
9-in. 7s. 11d. per	
n pipes, coated,	
engths, 4-in. 4s.,	
9d., 9-in. 8s. 6d.	
cement and sand,	
cavator above.	
or caulking, 55s.	
t.	
ls. 9d. per lb.	
AYER.	
er, 2s. 0½d. per	Brickwork in stone lime mortar, Flettons or equal, £49 per rod.
, 1s. 9d. per hour.	Do. in cement do. £53 per rod.
r, 1s. 10d. per	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
	Do. circular on plan, add 12½ per cent. per rod.
tocks, 88s. per M.	Facings, fair, 3d. per ft. sup. extra.
81s. 6d. per M.	Do. picked Flettons, 5d. per ft. sup. extra.
hire blue, 220s.	Do. picked stocks, 7d. per ft. sup. extra.
	Do. salt, white, or ivory glazed, in areas, 6s. per ft. sup. extra.
s, 2½ in., 223s. per	Struck pointing, 4½d. per ft. sup. extra.
salt, white, and	Tuck pointing, 1s. per ft. sup. extra.
stretchers, £25	Weather pointing, 4½d. per ft. sup. extra.
	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
aders, £24 10s.	Do. 1½-in., 5s. 9d. per yd. sup.
	Do. 2-in., 7s. per yd. sup.
extra, 130s. per M.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
less, £1 per M.	Asphalte, damp course, ½in., 1s. 6d. per ft. sup.
and sand, see Ex-	Do. vertical 2s. per ft. sup.
above.	Slate damp course, 2s. per ft. sup.
ey stone, 67s. per	Asphalte paving in two thicknesses, ¾-in., 12s. per yd.
me mortar 27s.	Do. skirting, 6-in., 1s. 8d. per yd.
ourse, in rolls of	
4s., 9 in. 7s. 3d.,	
10s. 9d., 18 in.	
er roll.	
(INCLUDING SLATE).	
s. 0½d. per hour.	Hoisting and setting stone, 1s. 11d. per ft. cube.
2s. 1½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
, 1s. 9d. per hour.	Plain face Portland, basis, 2s. 6d. per ft. sup.
r, 1s. 10d. per	Do. circular, 3s. 4d. per ft. sup.
	Sunk face, 3s. 6d. per ft. sup.
stone:	Do. circular, 4s. per ft. sup.
d, 4s. 5d. per ft.	Joints, arch, 2s. 3d. per ft. sup.
	Do. sunk, 2s. 3d. per ft. sup.
d, 4s. 8d. per ft.	Do. do. circular, 3s. per ft. sup.
	Circular-circular work, 15s. per ft. sup.
ne, 3s. 1d. per ft.	Plain moulding, straight, per inch of girth, 9d. per ft. run.
	Do. circular, 1s. per ft. run.
red, 7s. 6d.	Half sawing, 1s. per ft. sup.
trade extras for	Add to the foregoing prices if in York stone 35 per cent.
locks.)	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
	Rubbed round nosing to do. 8d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 95s., Countess 103s., Duchess 117s. per square.
Tiler, 1s. 11½d. per hour.	
Scaffolder, 1s. 10d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
Labourer, 1s. 9d. per hour.	Delabole do. 115s. per square.
N.B.—Tiling is often "Piecework."	Add, if vertical, 8s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 105s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 92s. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 55s. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 0½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. 3d. per ft. cube.
Joiner, 2s. 0½d. per hour.	Do. framed in floors, roofs, etc., 14s. per ft. cube.
Labourer, 1s. 9d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 18s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel (equal to) 1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or 1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Centering for concrete, etc., including horsing and striking, 98s. per sq.
	Slate battening, 29s. per sq.
	1-in. deal gutter board on firring, 108s. per sq.
	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £65, 3rd and U/S. £65 per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Do. F.E., 3rd and U/S. £58.	Do. do. do. 1½in 3s 3d. per ft. sup.
	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Battens, 3rd and U/S. £51.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
	If in oak multiply 6 times.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	If in mahogany multiply 6 times.
	If in teak multiply 7½ times.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1½-in. 16s. 6d. per yd. sup., average.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Staircase work, deal: 1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup. 2-in. deal strings, fixed, 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup. of 1 in.	
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 1d. per hour.	Milled lead and labour in gutters, flashings, etc., 80s.
Mate or labourer, 1s. 9d. per hour.	Lead pipe, fixed, including running joints, bends and tacks, ½-in., 2s. 2d. per ft.
	Do. ¾-in., 2s. 11d. per ft.
Lead, milled sheet, 55s. per cwt.	Do. 1-in., 3s. 4d. per ft.
	Do. 1¼-in., 4s. per ft.
Do. Drawn pipes, 55s. 6d. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 10s. 9d. per ft.
Do. soil pipe, 60s. per cwt.	Do. 3-in., 11s. per ft.
	Do. 4-in., 15s. 9d. per ft.
Do. scrap, 28s. per cwt.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 2d. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 3-in., 2s. 6d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 4-in., 3s. 3d. per ft.
Do. fine, 2s. 3d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
Red and white lead, 10d. per lb.	Do. O.G., 4-in., 2s. 3d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 48s. each. Baths only, with all joints, 40s. each. Lavatory basins only, with all joints on brackets, 33s. each.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ⅛ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 0½d. per hour.	Lathing with sawn laths, 2s. yer yd.
hour.	Metal lathing, 2s. 10d. per yd.
Labourer, 1s. 9d. per hour.	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. 6d. per ton	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not includin, lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 67s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Plaster, 83s. per ton	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 11½d. per hour.	Lime whiting 2 coats, 6½d. per yd. sup.
Labourer, 1s. 9d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. 1d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 11½d. per hour.	Knot, stop, and prime, 9d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	Do. subsequent coats, 1s. 3d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 5d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 10d. per yd. sup.
Turpentine, 18s. 6d. per gal.	Figured do. do. 8s. per yd. sup.
Liquid driers, 22s. per gall	French polishing, 1s. 10d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
Petrifying liquid, 4s. 3d. per gall.	Varnishing paper, 1 coat, 15s. 6d. per piece.
Double size, 7s. per firkin.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Pumice stone, 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 6d. per yd. sup.
Hard stopping 9d. per lb.	Do. each subsequent coat, 1s. 4d. per yd. sup.
Varnish, hard oak, 20s. per gall.	
Do. Outside do., 20s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 7s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £59 10s. p
Mate, no fixed rate.	Do. in small sections as reinforment, £44 p
Brector, 1s. 10d. per hour.	Do. in compounds, £52 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reeinforcement, £46 per ton
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including b in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per c
Sheet steel:	Fixing only corrugated sheeting, including w and driving screws, 1s. 7d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last. flat. 5s. 5d. sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not in wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per f
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not in battens or boards, plain "diamond" per grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to t of cement used (about 3s. to 4s. per bus cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 6d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 1d. per ft.

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Competition News

New Wards, Peterborough Hospital.

The Peterborough Hospital Committee invite designs in competition for the erection of new wards for 122 patients, operating theatre, administrative offices, nurses' hostel, kitchen department, out patients', casualty, X-ray, and massage departments, boiler house and engineer's shops, coal stores, ambulance shed, motor garage, mortuary block, etc. Mr. Edwin T. Hall, F.R.I.B.A., has been appointed assessor. Premiums of £200, £100, and £50 respectively will be paid to authors of designs placed 1st, 2nd, and 3rd, in order of merit. The accommodation to be provided includes four wards for twenty adult patients each (two for male and two for female medical and surgical cases), a spare ward for twelve adults and a similar ward for sixteen children. Each ward to have separate one-bed room in which patients can be isolated, baths, a sink room, nurses' w.c., and sanitary accommodation for patients, a small test room, lockers or store room for patients' clothes, linen room, duty room, ward kitchen with small larder, etc. Private wards for eight patients are required (six of whom should have single rooms), the group to have similar sanitary and other accommodation to the above with the exception of observation ward. A lift to take bed cases to be provided to all floors. A main operating theatre with unobstructed north light; adjoining it should be anæsthetising and recovery rooms, dressing rooms, etc. An out-patients' department with separate entrance, but easily reached from main buildings. Consulting rooms for the physician and the surgeon, each with two patients' dressing rooms; a dark room between for opthalmic cases, surgery for minor operations with recovery room adjoining, a dental surgery. These rooms to be arranged around a waiting hall to seat 100, on one side of which should be placed a dispensary and almoner's office, and separate lavatory accommodation for both sexes should be provided. Casualty department with separate entrance under cover (one room with two dressing rooms). X-ray room and one for massage. A photographic dark room. Administration: A board room, secretary's office, waiting-room, bed-sitting-room for porter and a porter's office. Staff: One room and lavatory accommodation for visiting doctors, sitting-room and two bedrooms with baths and w.c. for resident surgeon; office, sitting-room, and bedroom for matron; office and bedroom for housekeeper; bedrooms for six sisters, eighteen nurses, and twenty probationers; cubicles for ten domestic servants and bedroom for cook. Bathrooms, etc., in addition. Nurses' con room, writing-room, dining-room servery sisters' room, servants' hall used also as dining room. Large ki for cooking all meals served in infir with sculleries, larders, etc. A linen and mending room. Outbuilding boiler-house with pump-room and bunkers, ambulance shed, mortuary P.M. room. Drawings required: plan; drawings to scale of 16 ft. to the showing (a) plans of each floor, (b) tion through each building, (c) elev of each building. No perspective w received. The report accompanying ings to describe methods of heating, supply, etc., with an estimate of pr cost of buildings. Questions relati the competition to be addressed t secretary of the infirmary not later May 20. The competition close June 30, 1920.

Ideal Public House.

Ideal Public House. Premiums, £175, and £125. Assessor, Mr. W. Green, F.R.I.B.A. Apply Messrs. Sa Allsopp and Sons, Ltd., Burton-on-T Closing date June 30. (See also edi note, page 634.)

Other competitions open include memorials at Lockerbie, Sheffield, a the R.I.B.A., particulars of which published on page 630 of our last issu

esday, May 26, 1920

Volume LI. No. 1325

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

INIGO JONES

Sometimes called the "English Palladio," and the "Father of English Architecture." Inigo Jones was born in London about 1572, the son of a cloth worker. Sent to Italy by an interested nobleman to study landscape painting, he became deeply enamoured of architecture, and ultimately achieved a Continental reputation. In 1605 he came into Royal favour, and was employed in supplying designs and decorations for the Court Masques. After a second visit to Italy in 1612 Jones was appointed Surveyor-General to the Royal Buildings by James I., and designed the Palace at Whitehall. Persecuted after the Civil War, he died in poverty in 1651.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 16.—Cloister of S. Maria della Pace, Rome

Bramante, Architect

This cloister was built by Bramante in 1504, just ten years before his death at the age of 70 in 1514. He came to the north of Rome, after leaving Milan following its capture by

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
nesday, May 26, 1920 Volume Ll. No. 1325

Building and Industrial Peace

ARLY men were nomads. They wandered about, and that for a very good reason; they followed their food. At first they were hunters and fishers, and pursued their quarry whither it hem. Later they became shepherds and graziers. domesticated wild animals. But that did not put nd to their wanderings. They still had to follow food because the animals they fed on had in their to wander for their food. Pastures eaten were ed for pastures still to come, and the shepherd lered whether he led his flock or followed it. Men d when they became farmers, when they

"Ploughed the fields and scattered
The good seed o'er the land."

they waited for their food which no longer wan-l, but grew where it was sown.

wanderer can do with a tent or a cave. The man wandered no more asked for shelter more stable. e builder came, and the builder who builds for men are no longer nomads is himself one, and, for the old and sufficient reason, he follows his job because e his job is there his food is. It is the great diffe- between the builder and other workmen that the nodities they make move while their makers remain e place where they were made; but with the builder ommodity he makes is fixed; he moves not his work. hink it may be for this reason that it is not realised great an industry the building industry is. One is essed by a great shipyard, a vast and hive-like ry, huge cotton mills, extensive collieries; we that the textile industries are great indus- but find it difficult to believe that build- is, if not the first, amongst the first three he great occupations of the people of this try. Yet so it is, and at times it seems a marvel it should be so. That men go on weaving and ing and mining year in and year out is not surpris- because clothes are worn, fuel is burned, and replace- is continually called for. But that men should go ilding is wonderful, for buildings, even the frailest, for long years, and are not speedily replaced. To the fact that building, although with ups and s, goes on progressively from year to year, is to get conception of the force and energy which is nually manifesting itself in these islands. We all those places, quiet country villages, little towns ver or seashore, or peacefully built with mountain el, where the builder's work seems to have been ed a long age since, and reflecting on these we e how continually new centres of human activity be springing up, developing, and extending within island shores. What fountains of human force ng up from the great focal centres of industry are nually spreading their streams of social require- s, calling continuously for the shelter which it is the er's business to provide.

it is we have the great building industry, with all ntingent and consequent demands for raw material for transport. I have suggested that the building industry fills no great place in the public eye, and that is the truth, I think, despite the fact that housing demands since the war have focussed so much attention upon it. Few people realise its extent as an industry, still fewer realise the extent to which the industry is organised and the perfection of that organisation. We are all talking to-day of industrial unrest and discontent, and the best means for promoting improved relationships between employers and employed. The famous Whitley Report, with its scheme of Works, and District, and National Councils, has received not only the imprimatur of the Government, but has captured the public imagination as a great advance towards the solution of the industrial problem. It will be news to many that within the limits of the building industry before the publication of the Whitley Report there had been hammered out a scheme under which a Building Trades Parliament has been established surveying the building industry as a whole, working strenuously, and it is not too much to say successfully, on its own particular problems. No great master builders stand before the public as do the great steel and coal magnates; no great industrial leader as amongst the miners and railwaymen; but quietly, persistently, without publicity on both sides, either of the employers or of the operatives, organisations have been built up which have found points of contact and common interests, which have led to the establishment of Conciliation Boards, Regional Councils, and ultimately a National Parliament for the whole industry. It may well be that the building industry within the next ten years will give a lead to all the others in the country in settling the common problems which vex them all.

The industry has entered upon a period of intense activity. Upon it the greatest demands are being made, and the difficulty is to settle which shall have priority. For the moment the needs of housing seem to push all the rest into the background. But that can be only for a time. The calls of commerce and industry will become hardly less clamant than the call for cottages. The work of reconstruction cannot be one-sided. How difficult it will be to determine what work shall have precedence of others it is not yet possible to say. What is desirable is that all the resources of organisation, administrative capacity, and manual skill shall be devoted to meeting the demands that are made upon them. It is a time of emergency, a time in which the overtaxing of capacity produces irritation and recrimination, but if there is any industry in which from both sides can be hoped the display of those qualities of tact and judgment which, with goodwill, are sufficient to surmount all difficulties, it is from the building industry. All alike, architects, surveyors, builders, operatives, are interested in seeing that what building can be done shall be done, and that no trade or business shall be prevented from contributing its full quota to the needed production of the world's supplies because the builder has not been able to give it the attention it requires.

New ideas, new processes, new methods, all are demanded. To beget these is the imperative necessity.

But, above all, what is insistent is that good sense and good feeling should dictate some arrangements that shall be mutually satisfactory and profitable. No greater disaster could befall this country at this time than a stoppage in the work of construction. The moments are golden with opportunity. Everything points to a period of the utmost prosperity if the full resources of the country can be employed to meet the world's demands. Whether they shall be so or not depends, not upon any section of the building trade but upon all. It may prove to be little short of providential that years immediately preceding the war saw brought being machinery by which the men who are direc this great industry on the sides of capital and lab can meet each other, confer with each other, and c clude arrangements to mutual satisfaction. That fullest use may be made of this great instrument must hope, not only for the sake of the industry it but for the general welfare of the community whic so much involved in it.

H. BARNES

Notes and Comments

The City Churches

AMIDST the chorus of indignation against the proposal to destroy nineteen City churches there are naturally a few discordant voices. So many hundreds of utterances have been published that it would have been strange indeed if there had been no apologists for the scheme. Among the very sparse minority one is not surprised to find a gentleman after whose name come the imposing letters "B.Sc., A.R.C.Sc., A.M.I.C.E." Somehow or other this considerable section of the alphabet does not inspire much hope for æsthetic appreciation or historic sentiment. This gentleman contributes a touch of humour (of course, wholly unconscious—that formidable array of letters is a fairly safe guarantee against the other variety) to a situation that was hardly in need of it, seeing that the scheme itself is a tremendous joke, though a deplorably grim one. This intensely scientific gentleman actually says about Wren that "His crowning effort, all will admit, was St. Paul's Cathedral, but what of all the other churches?" Ah! what indeed? In the present crisis it is most unfortunate that they are not all cathedrals like St. Paul's; for the critic declares that "The new generation of architects would be encouraged and breathe the freer if these ugly examples could be swept away and not held up to them as things of beauty." It does not seem to occur to him that there may be other reasons for preserving them; even as our motive for reproducing this critical opinion is certainly not to hold it up as a thing of beauty; nor to ridicule, but merely to exhibit it as a manifestation of the intense objectivity of the scientific mind. This A.M.I.C.E. stands excused. He is merely true to a certain positive type. But one is really pained to find Mr. Thomas E. Colcutt leaning a little towards the opinion of the Advocatus Diaboli. He writes: "Indeed, I will go so far as to say that the City would sustain no artistic loss by the total removal of some of these buildings. Several of the towers, in fact, are devoid of architectural merit and artistic beauty." But it was never pretended that æsthetic quality is the only reason for preserving them. In fact, it would be safe to assume that, with the general public, this is the reason that carries least weight. Nor, as Mr. Colcutt must be very well aware, is beauty the only architectural criterion by which a building of the Wren period is to be judged. Mr. Colcutt adds: "The general public and architects alike venerate Wren as one of the immortals, but immortals, like other men, are fallible, and cannot on every occasion achieve a masterpiece." But no such exorbitant claim is made for the doomed City churches; and Mr. Colcutt's implicit assumption that any of them can be justly condemned on its tower alone is perfectly gratuitous. A Wren interior may be better worth preservation than a Wren tower, and both may have associations or characters that transcend physical beauty. We cannot help regretting that Mr. Colcutt, an eminent architect and a Past President of the Institute, did not think the matter out a little more thoroughly before flattering iconoclasts with the presumption that his authority influence are on their side. The public should un stand that he speaks for himself alone—very much al for we have reason to believe that architects are ne unanimous in an ardent desire to preserve the churc Lord Phillimore, who presided over the Commiss writes in the course of his very temperate letter to " Times" of May 13, that "It is surely not beyond skill of the architects of the present day to build chur of such a design that the beautiful conten s of som the demolished churches could find appropriate settin This begs the question. It might be possible to tran some of the woodwork; but what a difference the between saying, for example, inside some brand- church in Brixton or Bermondsey, "This is Dr. Johns pew, brought from the demolished church of St. Clem Danes," and, "This is the church in which Dr. John worshipped, and here, on this very spot, is the selfs pew in which he prayed, and about us are his very roundings; he saw them exactly as we see them." the one case the pew, detached from its original envi ment and native atmosphere, is a mere "curio," t regarded with mild interest. In the other it overa us with a sense of actuality. The difference is fu mental and vital. (St. Clement Danes is fortuna not involved, and is merely used for the sake of illustration.) In the Commission's report it is rec mended that of the nineteen churches recommended demolition seven towers should be retained. T would be so many monuments to iconoclasm. The left standing in Upper Thames Street is the most for and dismal object in the City. This grudging conces is really not worth while. It was inevitable that matter should come up at question time in the Hous Commons. Sir J. D. Rees, member for East Nott ham, asking whether the Government could and w take action to save the churches, was told by Mr. B Law that "this is not a matter in which the Governm can take any action." But hereafter Parliament ma asked to sanction this sacrilege, and, if its temper is of the present Parliament, it will refuse to be an acces before the fact. "Of how much value and beau asks "An Englishman" in the "Daily Mail," "wil wonderful carvings, the work of Grinling Gibbons others, be deprived when they are packed, with c spoils, into the country houses of the profiteers? T remain the masterpieces of Sir Christopher Wren, greatest architect ever born in these isles. We hav right to abolish from the face of the earth the wor his hands, and to make it as though it had never b For us he laboured, and it is for us to preserv thoughtful gratitude that which he gave us." Th the spirit in which the City churches are gene regarded by persons of education and refinement, an very many who, while advancing no indisputable c for admission to that category, have, neverthe enough fine feeling to resent very bitterly this vi assault on the objects of their veneration.

British School at Rome

n publishing last week the portrait of the winner of scholarship awarded by H.M.'s Commission for the ish School at Rome, we inadvertently described Mr. O. Lawrence as a B.A. of Liverpool University. He ls, in fact, the degree of Bachelor of Architecture, which he took the five years' course at Liverpool versity. The description should therefore read, O. Lawrence, B.Arch. (Liverpool), A.R.I.B.A. he portrait we showed he wears the hood and gown per to that degree. Another distinguished alumnus he University of Liverpool School of Architecture, Harold Chalton Bradshaw, who, in 1913, became first Rome Scholar in Architecture, and is now stant in the Architecture Department of the Univer- of London, has just been elected Hon. Secretary to Faculty of Architecture of the British School at ne.

Monument to Beaux-Arts Students

ubscriptions are being invited towards a memorial nument to students and members of the staff of the ole Nationale Supérieure des Beaux-Arts who fell in war. The fund is regarded as international, and glish architects are invited to subscribe. We trust that y will show their admiration for our brave French rades who fell in freedom's cause. M. Pontremoli, Rue Spontini, Paris, is the treasurer. While it would tainly be a graceful act for all the Allies to subscribe each other's war memorials, there would be more ressiveness in each country sending not money, but actual memorial to the other countries. It need not an imposing nor an expensive work, but only some te small memento that Belgians, French, Italians, tish, fought and died together against aggression. h a memento would be, in every instance and for h country, a permanent, visible, and tangible venir of the Alliance, as well as a memorial to the ve dead. Here is an object for which the Institute, Society, the Scottish and Irish Societies, and the ustrial federations could unite in a peculiarly graceful . Britain should hasten to set the example; in the antime, the R.I.B.A. has decided to hold a competi- n for the design of a memorial tablet to its own noured dead, and is inviting subscriptions for it (in no e to exceed one guinea). The various countries ght exchange replicas of their respective memorials.

A Home for London University

Government has done a great thing for London, and the Empire. It has offered a site for London Univer- . In that act the Government gives a substantial l very welcome proof that it realises the value of the her education, and is concerned to make provision for As we have said persistently for years past, it was great reproach to London, and, indirectly to the erning powers, that London had no university build- —that London University was accommodated on erance in lodgings at the Imperial Institute. Merely remove that reproach is a grand thing to do; but the has much wider issues. Great Britain cannot hold own in the eternal competition with other countries ess her youth are properly trained and equipped for That this fundamental fact—thanks no doubt to a me Minister uncommonly accessible to ideas, and to a nister of Education who is singularly well qualified to mit them to him—is clearly recognised by the Govern- nt is evident from the letter from Mr. H. A. L. her, which was read at a meeting of the Senate of the iversity held last Wednesday. The gist of the nouncement is contained in the following paragraph: he Government are now in a position to acquire a about 11½ acres behind the British Museum, and they r to devote it gratis and in perpetuity to the pro- ion of a site for new headquarters of the University and for colleges and institutions connected with it, including King's College, whose premises in the Strand are now inadequate for its needs." Mr. Fisher added that the state of the national finances does not admit of the Government's providing the buildings as well as the site. The Government feel, he added, "that in a matter in which the honour and dignity of the City of London is so nearly concerned, the University can look with confidence to the generosity and public spirit which have always marked the City of London." For our part, we feel sure that the City of London will prefer to play the chief part in erecting the University, and we have not the smallest doubt that it will rise nobly to so glorious an occasion. The site is on the Duke of Bedford's estate, and is on the north side of the British Museum extension; the land being bounded on the east by Russell Square, Upper Montague Street, and Woburn Square; on the north by Gordon Square and Torrington Place; on the west by Malet Street; and on the south by Montague Place. The site is valued at about a million pounds sterling, and it will be necessary to clear away many houses, the loss of which will be in some instances greatly regretted. But we cannot eat our cake and have it too, and the main subjects of present concern are, first, the rapid raising of adequate funds for the erection of a truly noble building, worthy of Education and of the capital of the British Empire, and adorned with beautiful groups of statuary appropriate to its character; secondly, the means that will be taken of securing a great design; and, thirdly, what steps the R.I.B.A. will immediately take both in this matter of design and in the hardly less important point of securing adequate provision for architectural education under the University ægis if not actually within its walls.

The Bank of England

Very opportunely, though we do not think that the coincidence was designed, Mr. Arthur Thomas Bolton's second Cantor Lecture before the Society of Arts dealt with the Bank of England building, the subject having become topical through the rumour that the Bank is to be rebuilt. It is rather surprising to learn, on Mr. Bolton's authority, that the building covers an area of eight acres (four acres being the area commonly assumed), and that, in fact, it occupies a space very little less than that covered by the Houses of Parliament, while the total run of the façades is more than a quarter of a mile. We rather fear that these revelations will merely strengthen the case for rebuilding, the chief argument for which is that so extensive a site is largely wasted on so stunted a building. It is not our argument, and we would cheerfully support Mr. Bolton in opposing it.

Farringdon Street Memorial Hall

Any regret that may be felt at the putting-up at auction of the Memorial Hall in Farringdon Street, London, E.C., is tempered by the rather vain hope that whoever buys the ugly pseudo-Gothic structure will have the grace to pull it down. The site it occupies, within a few yards of Ludgate Circus, is undoubtedly of great value, being as central and accessible as any that the City can show; while the building, though certainly not handsome; is made very conspicuous by its tall tower. But the fabric, which was built in 1872 to commemorate the fidelity to conscience shown by the ejected ministers of 1662, is substantial enough to endure for centuries. It has a main frontage of 110 ft., is constructed on five floors and contains several public halls and about sixty offices. It stands on the site of the old Fleet Prison of evil memory. It is so near to Fleet Street that probably some wealthy firm of newspaper proprietors will acquire it—perhaps Lord Northcliffe, who already has a huge reinforced concrete building, "The Fleetway House," a short distance from the Memorial Hall.

The Week's News

"Ivory Cross" Art Exhibition

Princess Arthur of Connaught opened an exhibition and sale of paintings, etchings, and engravings which is being held at the Royal Institute of British Architects, Maddox Street, in aid of the funds of the Ivory Cross.

Concrete Institute Medal

On May 27 the medal awarded by the Concrete Institute for the best paper read during the session 1918-19 will be presented to Professor P. G. H. Boswell, D.Sc., who took for his subject the geology of aggregates and sands.

Increased Building Subsidy

The housing subsidy to private persons who erect houses has been increased by £100 per house. For the three grades of houses the subsidy will in future be £260, £240, and £230. The conditions laid down as to reduction of the grant where houses are not completed within the twelve months will still remain in force.

"St. Paul's Bridge"

The Corporation of the City of London are applying to the Government further to extend for a year from next August the exercise of the powers for the compulsory purchase of scheduled lands within the City and in Southwark, which were required for the erection of the proposed "St. Paul's Bridge" with its approaches. The original Act was passed in 1911. The war stopped all progress with the scheme.

Rome Scholarship in Architecture

Mr. Frederick Orchard Lawrence, who, as announced last week, has been awarded the Rome Scholarship in Architecture, was born in Liverpool in 1893, and received his architectural training at Liverpool University, where he was awarded his degree in 1915. Since 1913 he has been an assistant to the firm of Briggs and Thorneley, of Liverpool. During the war he served for four years with the Royal Engineers in France, Egypt, and Palestine.

Repair of Lincoln's Inn Chapel

The beautiful chapel of Lincoln's Inn, singular among churches because its crypt is above ground, is now in process of restoration after the serious damage it suffered in the air raids. All its magnificent stained-glass windows, dating from the fourteenth and fifteenth centuries were shattered by a bomb which fell near the chapel in a German air raid. The fragments of glass were, however, carefully picked up and sent to a place of safety. Now experts are restoring the lights.

New Town to be built by L.C.C.

The London C.C. is about to start the making of a big town in the Essex marches, where now stands the village of Dagenham. Within a few years this is to give place to a modern town of about 20,000 houses, built on a site of 3,000 acres at a cost of thirty million pounds. The effect of the scheme will be to push the borders of London far beyond its present eastern limits. As yet nothing is announced about the details of planning or architecture.

Mr. H. C. Bradshaw: An Appointment

Mr. Harold Chalton Bradshaw, A.R.I.B.A., has been elected hon. sec. to the Faculty of Architecture of the British School at Rome. Mr. Bradshaw was the first Rome Scholar in Architecture, and won this high distinction in 1913 at the age of nineteen, when he was a student of the University of Liverpool. In January, 1920, he completed his Scholarship work after a break of four years in the Army. He is at present assistan the Architecture Department of the University London, University College.

Advance of Wages for London Builder

The National Conciliation Board for the Build Trades has decided that in view of the award of April there is no immediate need for a further award in Southern Counties area. As regards London, the Bo decided as follows: "The advance to date from May to be 3½d. per hour for all skilled trades (includ painters) and 4d. for labourers, and that all exist notices be withdrawn."

Devonshire House Sold

The Devonshire House site in Piccadilly is offered sale in lots to the public. The vendors are Mr. Harris partner in a Liverpool shipping firm, and Mr. H. Barley, financier, of Victoria Street, London, who p chased the site from Messrs. Holland, Hannen, a Cubitts, the London contractors, for nearly £1,500,0 According to one report, the fine frontage to Piccad is to be utilised for the erection of a cinema a restaurant.

Inter-Allied Housing Congress

The Inter-Allied Housing and Town-Planning C gress, which will assemble at the Central Hall, We minster, on June 3, will be attended by delegates fr both Allied and neutral countries. Norway and Holla are sending fifty delegates each and Finland fifty-th It is expected that between 700 and 1,000 will be prese After the conferences in London the delegates will taken to view housing and town-planning schemes Bristol, Birmingham, Bournville, and the North Home Counties. The Government will give an offic garden party at Hampton Court. Mr. Lloyd George President of the Congress.

Model Form of Contract for Housing

The Housing Department of the Ministry of He have issued a revised form of the contract for lun sum prices, first issued by the Ministry in Septemb 1919. It is stated to be "for the guidance of local auth rities and public utility societies in connection with co tracts for State-aided housing schemes." A new clau as to wages and hours and other conditions of labo has been adopted, and provision is made for adjusti the contract price in any event of alterations in rates wages and cost of materials after tendering. It is to obtained from any bookseller or direct from H. Stationery Office, price 3d.

Important Gift to the V. and A. Museum

The Victoria and Albert Museum has received fr Mrs. Leopold de Rothschild a most valuable gift, co sisting of a magnificent pair of silver-gilt candlesticks an altar, enriched with enamels and plaques of ro crystal, Italian work of the highest quality, dating fr the sixteenth century. The gift is of peculiar impo ance, inasmuch as the altar cross belonging to the cand sticks is already in the possession of the Museum, havi been acquired in 1861 at the time of the dispersal of t Soltykoff Collection, in which it was one of the mo notable objects. The group of three pieces is attribut to Valerio Belli, of Vicenza, whose work in the carvi of crystal is celebrated by Vasari. The carvings of t cross are of exceptional beauty, and the distinction style of the work in enamelled silver is equally strikin so that the whole represents a very remarkable artis achievement. The set is said to have been ma originally for François I. of France. The exhibits ha been placed in the East Hall.

Modern American Architecture. 4.—Interior from Residence of Mr. Charles H. Sabin, Southampton, Long Island

Cross and Cross, Architects

The living-room, from which the above view is taken, occupies the whole of one wing, and was executed in England. It was designed around an old English doorway, and shipped to America for assembling. The furnishings are adapted to suit the scale of the room, which is forty by thirty by seventeen feet high. The Raeburn painting over the mantelpiece makes an admirable patch of colour on the south wall of the room.

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Architectural Causerie: On Housing

OME there are who opine that architects as a class are apathetic to the subject of Housing, being, in fact, obsessed with the importance of making small houses liveable and beautiful, while cely giving a thought to the larger aspects of the lem. For the benefit of the public it will be as well ate forthwith that such drivel is far from the truth. itects there are who hold divergent views regard- the wholesale housing of the people; but all under- d the urgency of the issue; besides, it must be embered that the Ministry of Health does not urage imaginative reasoning from the body archi- ural, and that the public does not fully understand functions of an architect, or his ability to do more plan and superintend the erection of buildings to r.

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or the above reasons it is advisable at this juncture et down in black and white authoritative opinions ntly given. Professor Adshead stated at the tute the other week that, although "a certain num- of high buildings might be put on island sites and e southern side of large open spaces, it was utterly rd to talk about high buildings settling the housing tion. What all advanced people were thinking t to-day was either housing schemes in the suburbs tellite towns." Mr. Davis, who holds specific views rding a certain aspect of the question, inclines to heory of the communal building. Then we have nxiety of Sir Martin Conway (which a good many s share) for the protection of the beauty spots e Home Counties. Another authority, who wishes main unknown, is of the opinion that London should planned horizontally: that is to say, he would el owners of tall houses to subdivide them horizon- into flats; and in the case of houses of intermediate ortions, he would cut through the party wall in order t a sufficiency of rooms on each floor-level to serve urpose of a commodious flat.

* * *

verting to the theories put forward by Mr. Davis ding the communal building, it will be helpful to an interesting discussion with this distinguished tect upon the subject. In the first place, Mr. Davis hed the parallel of an Atlantic liner, with its quota ssengers, cargo, and crew, and compared it to the nisation of a great establishment such as one of the London Stores. When a first-class passenger ed the gangway and boarded the ship, his personal es about food, accommodation, amusement, and trivialities ceased. The first-class passenger had uite of rooms; he could use the public saloon, the ming bath, or the gymnasium. The second-class nger had similar but less elaborate accommodation; the third-class passenger had ample space for g, sleeping, and exercise. Mr. Davis pointed to alue in the liner and its organisation of disciplined ing allied to planning of the highest order. The ment and management of a ship carrying three and souls called for the highest form of design and ol. Notwithstanding obvious difficulties, the thing een accomplished. It was possible to-day for each to enjoy the ship without being brought into per- contact the one class with the other. The naire travelled on the same vessel with the ant from Lithuania. They both ate the same sort d from the ship's larder, although one had to allow ifference in the cooking; they both used hot water the central system; in a word, while on ship-board the care and control of the captain they were fed, ed, housed, and conveyed, all for certain terms ally agreed.

This system of communal housing Mr. Davis would like to see applied to the personnel of a vast commercial establishment. He would have the directors of such a place of business erect a palace on comprehensive lines within walking distance of the bazaar, factory, or drapery establishment). In this palace everybody, from the chairman of the board of directors to the packer's boy, would find accommodation. The director would have the finest suite, the manager one less sumptuous, the married employees convenient maisonnettes, and the male and female members of the staff dormitories and dining-rooms of proportionate scale. Mr. Davis, waxing enthusiastic over the idea, pointed out further advantages. The erection of half-a-dozen such places as a preliminary measure would do much to relieve the transport problem. Employees would be relieved of the additional strain engendered by making unnecessary journeys by road and rail, often during inclement weather. The communal establishment would be largely self-supporting, and, thanks to the skilful planning, the various social distinctions could be maintained.

* * *

Perhaps it will interest Mr. Davis to know that his idea has been partially tried. For example, many of the large drapery establishments have erected hostels for their employees, some of which can be seen in Gower Street, but it is questionable whether the mentality of the chairman of a great establishment would allow such a one to live under the same roof as the packer's boy. Mr. Davis's idea is a laudable one. It is brilliantly simple in conception and thoroughly Baconian in theory, with perhaps a trifle of the impertinence and audacity of the Ecole des Beaux-Arts. We may live to see it realised. Perhaps Mr. Gordon Selfridge will give the matter his attention.

* * *

It is often urged by the public Press that professional journals are inclined to apathy as far as questions of public interest are concerned. More often than not the boot is on the other leg. We have reason to congratulate our distinguished contemporary the "Manchester Guardian" for its excellent views on architectural matters. The architectural Press is neither apathetic nor can it be arraigned as suffering from the political taint. Architects individually and collectively are not apathetic; the fault inheres in the fact that they are not allowed to exercise their imaginative genius or asked to give opinions regarding problems of public interest. In a word, the practitioner is regarded in these days as the servant of specific conditions, controlled, let it be noted, by amateurs. The only way of delivery from present afflictions lies in the creation of a kind of civil general staff, not a Parliamentary Committee, who will correlate the efforts of the Ministry of Health, the Local Government Board, the Royal Institute of British Architects, the London County Council, and various other bodies. The development of Greater London on systematic lines should be undertaken without further delay, and the proposals formulated by the London Society brought into action. The machinery is ready, and so is the lubricant: only the engineer is lacking.

* * *

London must be tidied up, as Professor Lethaby reiterates with emphatic insistency. Not only must her streets be freed from the litter of tram tickets, but also from the octopus of transport, which threatens to grow unchecked.

* * *

If the merchant princes of London, the City Fathers, the shipmasters, and the so-called practical men were endowed with imagination we should see things develop-

ing on more reasoned and logical lines. A manufacturing area would be created on the north bank of the Thames from Dagenham to Tilbury, with dock accommodation designed to meet needs five centuries ahead. A similar development is taking place on the south bank from Woolwich to Rochester. All manufacturers on a large scale should be compelled to migrate to the definite factory area. The question of housing the employees should form part of the task, not of the Government or the State, but of the factory owner or company. A string of dormitory villages should be formed on the uplands of Essex, at least five miles from the factory area, with a complete system of transport, care being taken to preserve the rural character of the intermediate belt, which could remain agricultural. A slight adjustment of the trunk railway lines, northern and eastern, could be effected economically, and pressure on the inner Port of London relieved very considerably.

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The creation of satellite towns, of communal buildings, and every kind of improvement in transport, will not avail unless the more important issues receive direct attention. London is either going to overspread the Home Counties and become a chaotic conglomeration, or be directed into definite and reasonable channels.

AERO.

Royal Academy Exhibition

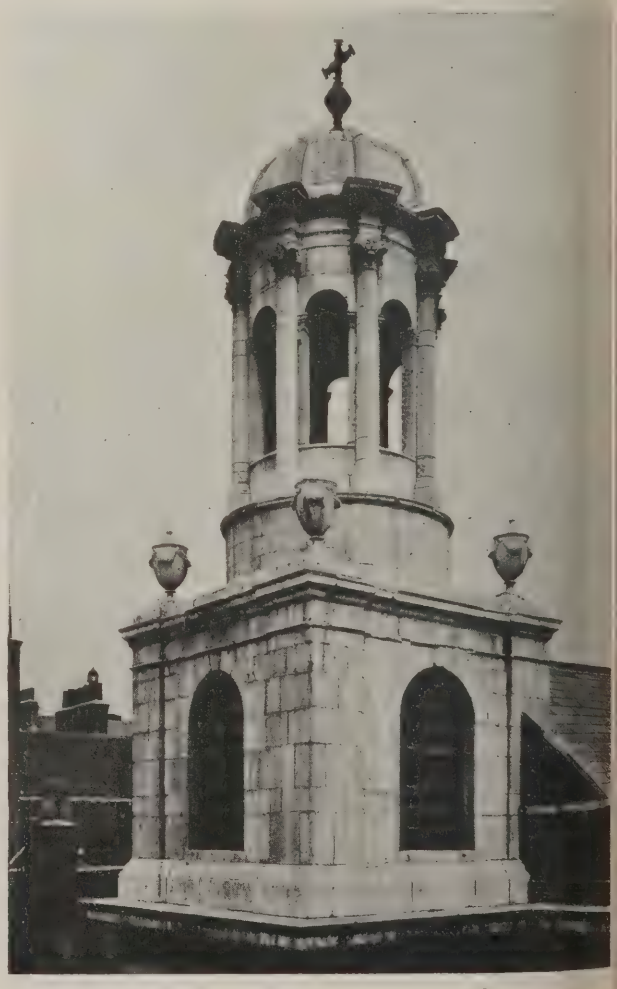
4.—Concluding Notice

Landscapes a-plenty maintain the Gainsborough and Constable tradition of fidelity first, and feeling infused delicately rather than expressed fulsomely, as was the manner when the "greenery-yallery Grosvenor Gallery" school held sway for a season, or when, later, a few misguided daubers tried to persuade us that the prevailing tints of an English landscape were smoke-blue and pale pink. But we have outgrown these weird aberrations, and returned to sanity and the healthy positive colouring of nature and of Mr. Leader, whose lovely southern landscapes greet us warmly with the old familiar smile; but the gloomy autumns and the bloomy springtimes have gone quite out of favour. The few specimens hung this year pale into insignificance beside the lusty browns and greens that turn them into mere ghosts of pictures. Always excepting the wonderful emanations from Mr. George Clausen's cunningly contrived palette, of which this year there are four. They all show the most consummate mastery of his medium, as well as of the entire technique of painting, but they make us yearn achingly for something warm and cheerful. Mr. Clausen seems to live in a peculiarly dull, misty, and chilly world. One turns from his pictures with a determination to correct this shiveringly misty mysticism of the drabness of life by turning to some blazing riot of positive colour, and one gets it good and fierce in Mr. H. S. Power's "Hell Fire Corner," and even more hotly in Mr. Harold Harvey's "Coloured Wools," of which the keynote is red of the ruddiest and lusciousest. There is fine portraiture as well as daring colour in Mr. Harvey's picture. Neither fiery-hot nor autumn-misty are Mr. Stanhope A. Forbes's charming landscapes. Generally speaking, his palette is charged with the most delicious gradations of warm browns, with sometimes a dash of vivid blue as a contrast. Note, for instance, his very interesting "Mousehole," in which, however, the water is rendered with a large carelessness that we do not expect from Mr. Forbes.

Of figure subjects, Mr. Walter Bayes contributes one of the largest canvases—"Oratio Obliqua" (No. 561, in Gallery X). It would be difficult to account for this odd title—one supposes it a painful reminiscence of the painter's schooldays—more convincingly than in the phrase of an Oxford undergraduate, who, gazing with half-contemptuous amusement on this untidy-looking picture of a cinema in full blast, observed. "I suppose calls it that because he's got it on the skew-bosh." picture-palace interior is certainly taken from a very orthodox view-point, and the ugly persons sitting uncouth attitudes in an atmosphere of stone-blue b dom verging on melancholia, are a rather interest study in morbid psychology. But one can only hope t Mr. Walter Bayes does not really see like that. (good purpose the picture does serve: its decadent n is an excellent foil to the cheery and healthy renderi in which the present exhibition greatly abounds. there be any poetry in Mr. Bayes's picture it must be the *vers libre* kind; but, truth to tell, there is little no opportunity for comparing it with poetry in accepted metres. That is where English art bre down. Faithful in observation and superb in techniq it is lamentably lacking in imaginative appeal.

Of the architectural paintings it may be said with much injustice, and with here and there an excepti that they are few and evil.

With respect to the exhibits in the Archictectu Room, there is but little to add to the notice gi last week. One misses the photographs; and reasons leading to their prohibition are not easy to c jecture; unless it be that the Council are anxious no encourage photography at the expense of draughtsm ship. One effect of the change is natural though reg table—it diverts attention from the design to the m drawing, and we notice that some of our lay conte poraries have criticised the exhibits as drawings only, if what the building looks like on paper is all that matte On the other hand, criticism of the building as it appe on paper or canvas is not quite fair to the architectu which is better judged on its appearance in th dimensions.



TOWER AND CUPOLA OF ALLHALLOWS, LONDON WALL
DANCE THE YOUNGER, ARCHITECT.

chitecture of the Late Eighteenth Century. 4.—Detail of Cupola to Allhallows Church, London Wall

Dance, the Younger, Architect

The old church of Allhallows, London Wall, though not destroyed by the Great Fire, fell into disrepair, and was pulled down in 1764. The present church, which is now threatened with demolition, was built in 1767, by Dance, the Younger, the architect of Old Newgate Prison. The exterior is notable for its gracefully proportioned tower, with open circular colonnade crowned by a shapely cupola.

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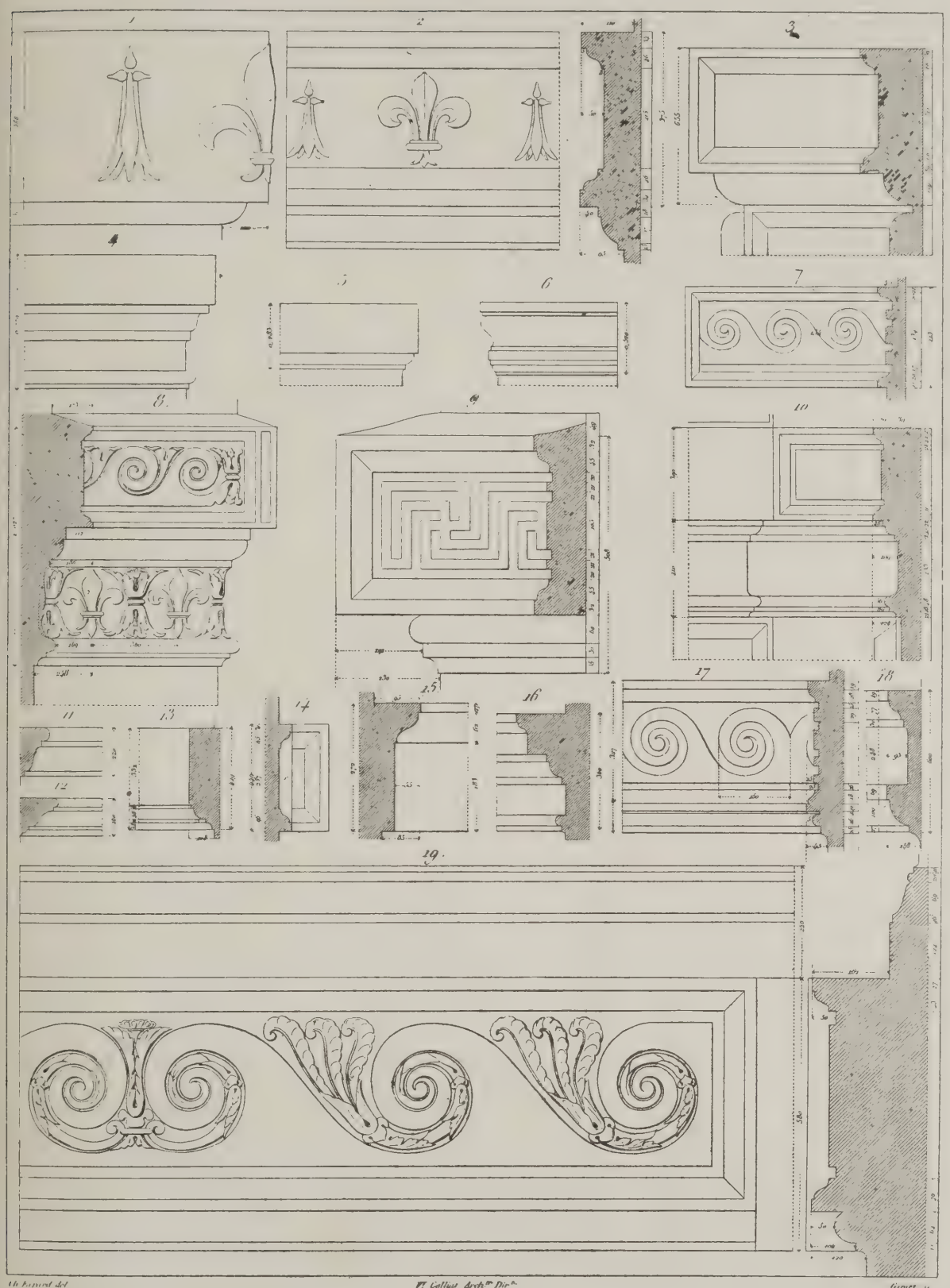
Architectural Details. 3.—Italian Renaissance Mouldings



These various and attractive mouldings all belong to the period of the Italian Renaissance. Their attribution is as follows :—
1, 2, 7, Baldassare ; 13, 14, Peruzzi ; 3, unknown ; 4, 5, Bernini ; 6, Borromini ; 8, 9, 17, Sangallo ; 10, 19, Bartolomeo Ammanati ; 15, Vignola ; 16, unknown ; 18, Flaminio Pontio.

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Architectural Education and Registration

By LIONEL B. BUDDEN, M.A., A.R.I.B.A.

VERYONE who is concerned for the future of the architectural profession in this country must at the present time experience in relation to that subject an interest peculiarly acute, an rest in which the elements of anxiety and of hope are ut equally balanced. The special general meeting the Royal Institute of British Architects, held on rch 22, had a critical significance, the full extent of ch can only be measured by its ultimate fruits. But ecisive step was then taken when, by unanimous eement, it was resolved to approve the proposal of the itute's Council that a Committee be appointed resentative of the whole profession for the specific pose of preparing a scheme, more extended and prehensive than that devised by the Institute itself 914, "for the unification and registration of the ession."

Iere is no question of parish politics, but an issue erally and supremely important. Whether that issue settled in a spirit sufficiently enlightened and far-ng must in the long run depend upon the collective ude to it not merely of the members of the specially ointed Committee, but of the entire profession. For to the judgment of the latter that the Committee's posals must finally be submitted for approval.

"The 1914 Resolutions"

ince "The 1914 Resolutions" were passed and ng the subsequent five years when external condi-s fortunately prevented those resolutions being put effect, a profound change has occurred in the ntation of the Institute's policy. Then it was still cted toward separatism and voluntary registration; it aims at federation or fusion and the registration ll architects by statute. It is a notable advance, if it is logically sustained, the profession will at last rge on to the plane on which it ought to function.

verything depends upon observing and fulfilling the irements which condition that advance. And it is isely on this score that most anxiety must be felt. spirit appears now to be willing enough, but, ing from some of its recent manifestations, it is a t not fully instructed and one easily darkened and used by a multitude of specious counsels. Certainly ould seem to be alive to the first and most obvious of disunion within the profession, and that danger, may reasonably anticipate, will in consequence be ated. All the recent evidence supports such a hope. beyond that, what is necessary to ensure success is to be very imperfectly realised.

one refer back to "The 1914 Resolutions"—the osed Charter to enable the R.I.B.A. to constitute maintain a voluntary Register of architects—one that only two of the thirteen resolutions are tly concerned with the future development of archi-ral education, and that those two reveal a concep-of the subject so limited and uninformed as to be st valueless. Clause five suggests that the qualify-ests for admission to the Register, in the case of ons not already enrolled under previously stated pro-ns, should continue to be the obsolete centralised inations of the Institute. And clause thirteen seeks ority "to confer upon certain Schools of Archi-re the privilege" of being represented on the Board rchitectural Education. In view of the extent and rtance of the educational problem in architecture, of its vital relationship to the policy of registra-these two resolutions are in their inadequacy little than grotesque They were so even at the time they were passed, nearly six years ago. To-day, if re-affirmed in their original form, they would be still more inept.

Yet the basic practical bearing of professional education on the whole question of registration remains a thing only dimly apprehended by far too large a number of architects. And therein lies the chief danger which threatens the final outcome of the present movement. It does not appear to be sufficiently understood that special and extensive privileges are unlikely to be granted by Parliament to any profession merely because that profession has organised itself into a unity and presents its claims with an unbroken front. There is the question of competence—into which the representatives of the State are bound to go. Competence is dependent on training. Unless the promoters of a bill for the registration of architects are able to show that the fitness of the profession to receive statutory recognition is justified by adequate educational provisions in the bill itself, there is little prospect of that bill becoming an act, and none whatever of its becoming a measure for which any ministry would assume responsibility.

The educational question is, to use an old *cliché*, the crux of the position. Parliament must be satisfied that it would be reasonable to authorise the registration of architects, either on the ground that their professional training as a body is already so efficient in its nature and so universal in its application that the step is justified, or on the ground that such training will become obligatory in the immediate future. No one can pretend that the first condition obtains at present; but the second can be provided for and embodied in a properly drafted bill.

To ensure this being done, the need for such provisions should be much more widely and intelligently understood than it now is. Professional opinion must, in fact, be rapidly informed upon the subject if it is to influence policy in time. Otherwise we may again be presented with an abortive scheme fated to enter Parliament under private auspices, and there to succumb to an early death from exposure.

The Medical Precedent

There is a definite precedent for the right way of setting about the business, and it is one that will have full authority in Parliament—the precedent established by the medical profession in 1858. In that year the concerted action of the profession resulted in the passing of the first Medical Act—an act so admirably framed that it has only required elaboration by subsequent acts to place the medical profession in the position they at present occupy. Fundamental changes in the principal clauses of the original law have never been necessary.

Under the terms of the first Act there was set up the General Council of Medical Education and Registration of the United Kingdom, with Branch Councils for England, Scotland, and Ireland. (It will be noted that "Education" significantly precedes "Registration" in the title of the General Council.) The composition of the supreme body was determined as follows:—One representative for each of the then existing Universities; one representative each for certain "Medical Corporations," such as the Royal College of Physicians, the Royal College of Surgeons of England, etc.—institutions analogous in certain respects to the R.I.B.A., and to the Society of Architects—and six persons nominated by the Crown on the advice of Privy Council, four for England, one for Scotland, and one for Ireland. Provision was made for the election of a President by the General Council itself. (At present the membership of the Council stands at about thirty, and includes, according

to the requirements of later Medical Acts, representatives of the newer Universities and of the general body of medical practitioners resident in the United Kingdom. Election to the Council is for a period of five years, with eligibility for re-election on retirement.)

The Branch Councils for England, Scotland, and Ireland were formed respectively (a) of the members of the General Council chosen by the Universities and Medical Corporations of those regions; (b) of the nominees of the Crown, and later of the representatives of the general body of medical practitioners, for such parts of the United Kingdom. To these Branch Councils the General Council was, within certain prescribed limits, permitted to delegate such administrative authority as it might think fit.

Briefly, the powers and duties of the General Council, as set forth in the Act, may be ranged under two heads:

I. The application and control of compulsory registration.

II. The supervision of medical education.

With regard to the first, the methods of procedure established were such as would almost inevitably be followed in the main by any profession seeking a similar object. Official Registrars were appointed by the General and Branch Councils, and were charged—as are their successors to-day—with the duty of keeping their respective Registers correct in accordance with the provisions of the Act. Every person already possessed of or subsequently possessing one or more of certain specified qualifications—doctorates, fellowships, etc., in medicine or surgery—was to be admitted to the Register on payment of a fee. Persons possessing no recognised qualifications could only be admitted if able to prove that they had been engaged in practice forty-three years before the date of the passing of the Act. (That Parliament should have sanctioned the enactment of so stringent a provision is some evidence of the strength of the medical profession as educated and organised even at that time. It is now, of course, incomparably more powerful.)

To meet the second obligation imposed upon the General Medical Council, effective machinery was devised and elaborated under subsequent Acts. Qualifying educational bodies were required to furnish the Council, on demand, with full information as to equipment, courses of study and examinations, and the Council was given the right of deputing representatives to attend the conduct of examinations. This latter task is now undertaken by what are called Inspectors and Visitors. The Inspectors are paid, the Visitors unpaid. Both are appointed by the Council, their functions being to observe the conduct of medical training and examination at the different centres, and to submit independent reports thereon to the Council, copies of which reports are also furnished to the teaching bodies concerned. Neither inspectors nor visitors are permitted to intervene in the work of medical education or in the tests applied. But, acting upon sufficiently adverse reports from its Inspectors and Visitors, the General Medical Council has authority to recommend to Privy Council that the examinations of any educational institution—University or Medical Corporation—which fails to maintain a requisite standard be not deemed qualifying examinations for the purposes of registration under the Act; and that the right of registration in respect of qualifications granted by bodies in default be suspended until the General Medical Council is satisfied that the courses of study and qualifications of such bodies have been brought up to the requisite standard.

Freedom of the Medical Schools

It will thus be seen that the medical schools enjoy in effect almost absolute freedom. The only condition they are required to observe is that their teaching and tests do not fall below an established level. This fortunate state of independence they owe to the fact that the provincial Universities in 1858 already possessed much authority and prestige to brook direct exter interference from London. Therefore the powers the General Medical Council were very judiciou limited in this direction to inhibitory recommendati to Privy Council. Occasion has only once arisen wh it has been necessary to exercise those powers and ne in regard to the qualifications of a university school

Finally, except in the case of graduates in arts science who have spent a year in the study of cert prescribed subjects, the Council requires that qualifying academic course for all students of medic shall be at least five years in length. A remission of year is granted in the case mentioned above.

Such wise and practical care for the maintenance a high general standard in professional education had its rewards. In the first place it assured the pass of the original Act under Government auspices 1858*; and ever since the medical profession has rea increasing benefits from the policy it then initiated. according to education its rightful place, by decentra ing its conduct and control, whilst at the same time p viding adequate safeguards against the abuse of t liberty, the maximum stimulus has been given to development of the schools. Each has built up a gr reputation and achieved separate distinction. Yet e is content to remain in and contribute to a unified syst of education precisely because that system is elastic nature and acts as a brace and support and not as a c stricting encumbrance.

Value of Academic Qualification

The selection of the universities as the normal edu tional instruments has justified itself entirely. Nea all the Medical Corporations—the non-academic inst tions—are simply examining bodies, for whose exami tions students are trained in the Universities. With exceptions the qualifications which they can bestow now only sought by students who lack the ability obtain a university degree in medicine, and by can dates for honorary appointments who are required tradition to possess both academic and non-acade qualifications. In other words the university qualif tions in medicine are the best.

Certain obvious and peculiar advantages were im diately secured as the result of delegating to acade schools practically the whole of the work medical training. A University is recognised by State and by the general public as the highest type educational institution that our civilisation has p duced, and a profession which is trained exclusiv through the medium of the Universities is in con quence properly respected. The prestige of the Univ sities assures them a steady tribute of endowments increased staff, for research, equipment, and accom dation; their actual resources are in consequence gr their potential resources illimitable. No other kind teaching body in this country can boast compara traditions or equal authority; no other is in a posit completely to meet the complex and costly requireme of modern professional education. These element facts were firmly grasped by the medical profess over sixty years ago; they still remain to be apprecia in full by the architectural profession to-day.

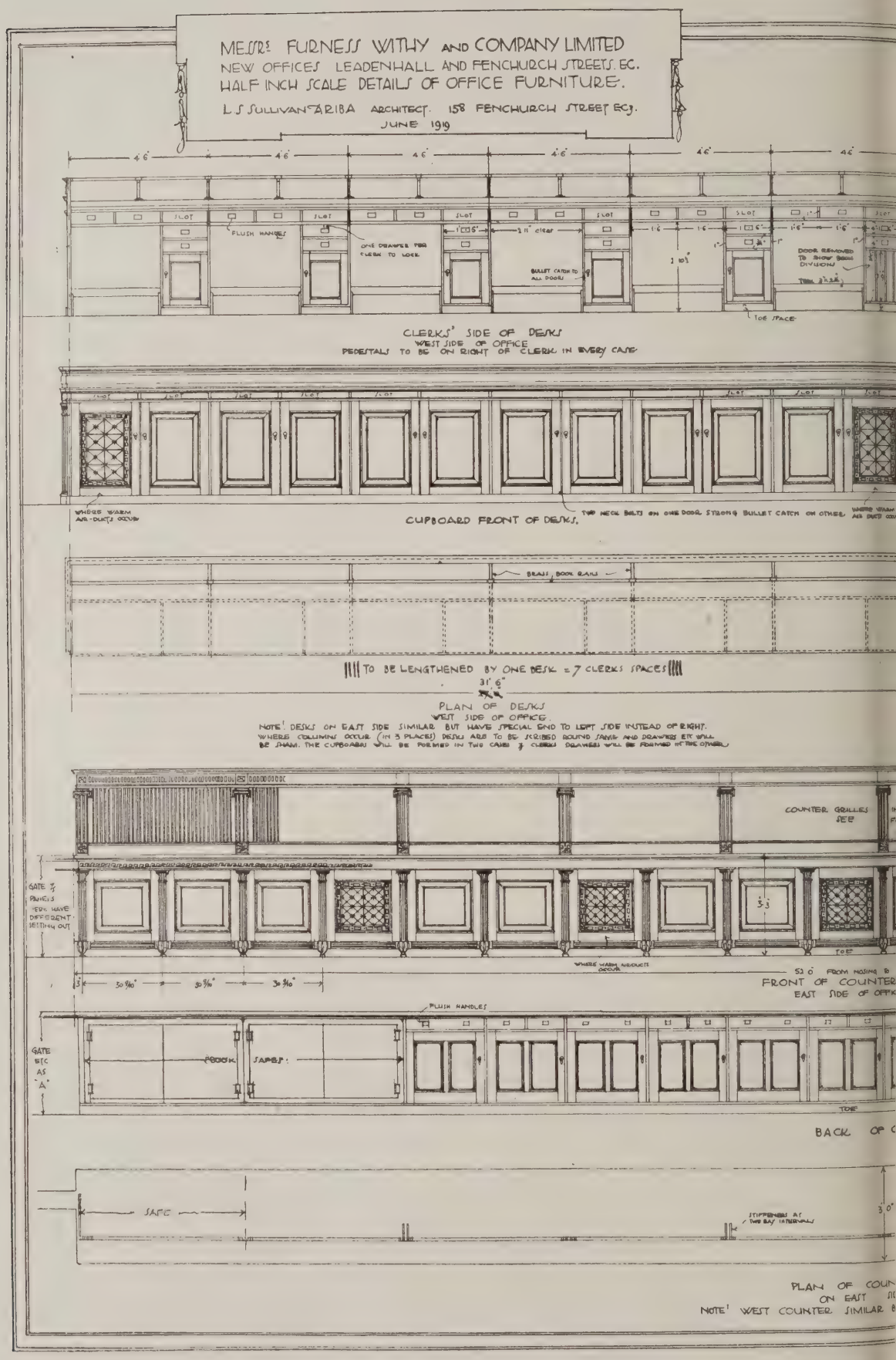
Yet all that the Universities have done for medic they can do for architecture. It is simply a questio encouraging and assisting them to do it; and the m effective method will be to secure in a registration the embodiment of educational provisions similar those contained in the First Medical Act. M Universities already have Schools of Architect Unassisted by statutory aid, some of these are expa ing rapidly and are beginning to leaven the profess with their graduates. But that is not sufficient. process must be speeded up and must become gene

(To be concluded.)

* All subsequent medical acts have also been Government measures.

Architects' Working Drawings.
Offices of Messrs.

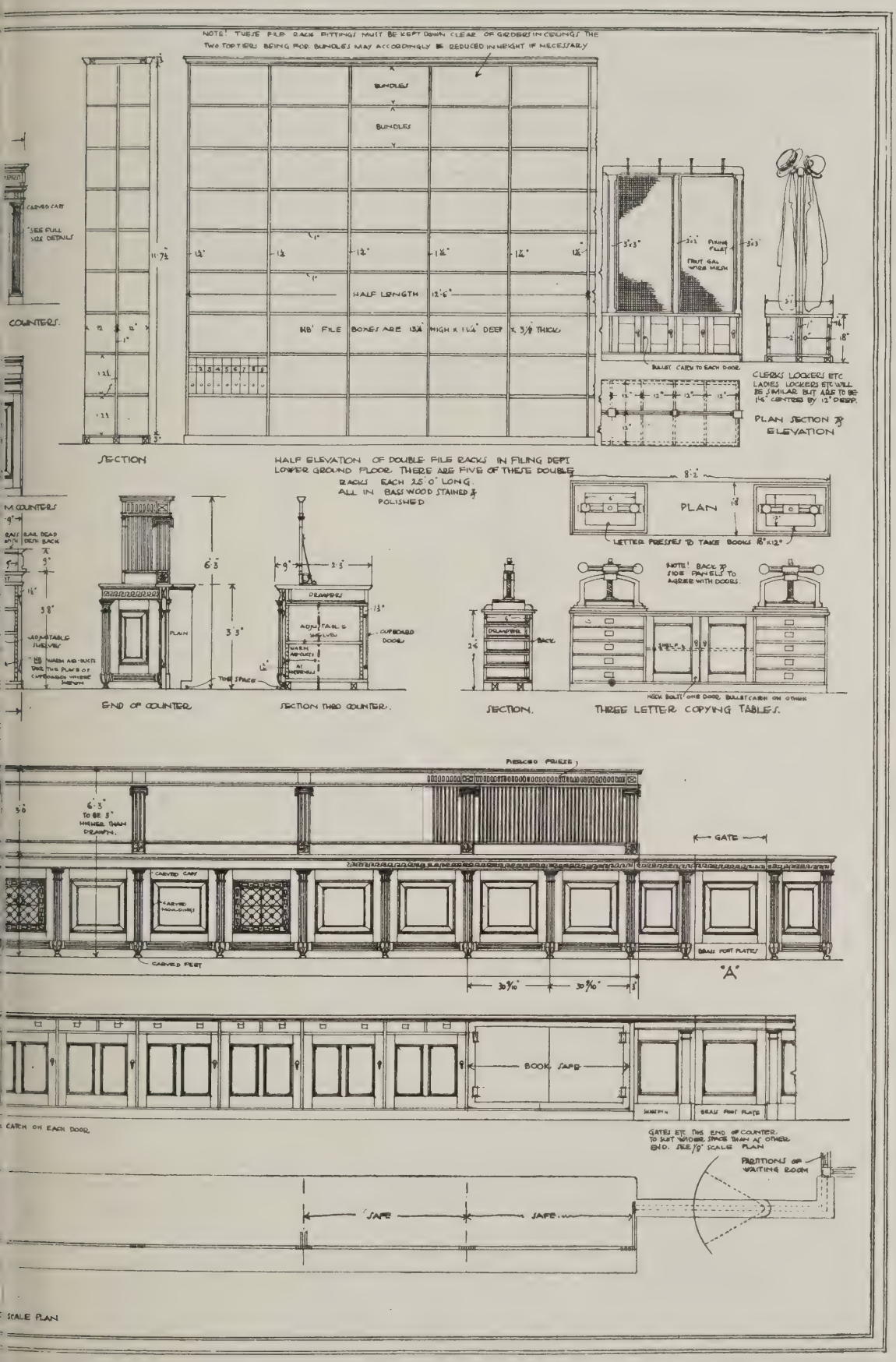
L. S. Sulliv



The above illustration shows details of the fittings and furniture s
Street, London. The whole work is in choice veneered Cuba m
Aircraft, Ltd., at their factories at Bath. The brass grilles, ornamen

ial Furniture for the London
ithy & Co., Ltd

Architect



ew offices of Messrs. Furness Withy & Co., Ltd., in Leadenhall
nount of brass ornament. It is being carried out by the Bath
being supplied by Messrs. George Wright, Ltd., to special designs.

THE
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'he Great Railway Stations of New York*

By BEN J. LUBSCHEZ, Fellow of the American Institute of Architects

HE impressive entrance to New York in which Nature took so large a part—the bay and harbour, the sal Statue of Liberty, then the unique ine of towering buildings with the :scent haze of morning or the myriad :ling lights of fairyland at night— 7 of you may know; few things in country have impressed visitors the other side of the Atlantic .s this first glimpse of our shore. It is something bigger than man-made. :his water-gate is, after all, something important than the entrance to New ; it is one of the principal entrances he country. Quite as important, ugh entirely provided by man, are great vestibules to New York, where ons come from all over the country year, its two great railroad stations, 'ennsylvania and Grand Central ter- ls. The minor stations and the on Terminal may be omitted from deration, the minor stations being of importance and the Hudson Ter- l being subsidiary to and merely ding down-town connections for the sylvania Station.

s rather difficult to evaluate the com- ive merits of these two buildings; both serve their purpose well and yet o different. They will be considered on a comparative basis and also as wo grand units in the group which is louble portal and vestibule of New Neither unit is more important the other in this group.

:ore beginning the analysis of the two ings it may be well to repeat a state- from the more general paper on rail- :erminals of a year ago: "The func- of a railroad station or terminal is, : all, to provide in convenient and :r manner a connecting link between :rvice of the railroad and the public ıse that service. Every requirement an must fundamentally be based on dea of making it easier, safer, and anter for the traveller to avail him- of the facilities of the lines of trans- tion."

'course, æsthetic requirements go fur- than this. No station, however, can ood architecturally, no matter how .iful its design may be, if it does not 7 this fundamental. That it must also ıpressive and beautiful it goes with- aying, for we must remember that it the station that the stranger gets his .mpression of hospitality and his last ring impression on leaving. Beauty :ential in formin~ these impressions :rly, but convenience and comfort will r in making us receptive to this mes- of beauty.

e first superficial analysis of the two ns reveals the Grand Central as a *le-force* in the Modern French ol, clever, brilliant planning of great :ncy but extremely complex and y understandable without the most ul and painstaking scrutiny and . The Pennsylvania, on the other , is a great Roman structure, big, ımental, dignified, and with a *parti* nple and clean-cut that it reveals at a glance.

bstance of a paper read before the R.I.B.A. on .

The Grand Central Station

The Grand Central is an actual terminal for all trains entering it, and is on two general levels, the principal level being mostly for the transcontinental and other long-distance lines, and the lower level used mostly for suburban short-distance lines or commuting service. The terminal and office building fronts on Forty-second street, runs back to Forty-fifth Street on the north, and lies between Vanderbilt Avenue on the left or west, and Depew Place on the right or east. The building apparently stands on a great terrace, the top of which is a promenade. Directly in the course of the Forty-second Street front is the Park Avenue viaduct connecting with the promenade, which in turn carries Park Avenue traffic around the sides of the station by way of Vanderbilt Avenue and Depew Place, and meeting the level of Forty-fifth Street at the rear. Depew Place is, for the present, merely a private street and is not open to general traffic. It separates the Commodore Hotel from the station. Under this promenade, on the street level, are shops, the main entrances, and the cab entrances.

On the level of the Grand Concourse floor and directly connected with it, but —on account of the street grades—lying under Forty-third Street and partly in the basement of the Biltmore Hotel, are an extension of the train gates with appropriate lobby, all used only for incoming trains and in conjunction with the main station, and an elaborate underground cab concourse connected with the street level by ramp to Forty-fourth street.

Underground Connections

Even after considerable acquaintance, one is apt to lose his way in the lower level of the Grand Central Station. There are direct underground connections with the Commodore Hotel on the east and the Biltmore Hotel on the west; indirect connections to two other hotels. There are direct connections to three subway traffic systems on two different levels. These passageways, some quite wide and long, are in many parts lined with all kinds of shops. Adjacent to this little underground city are the seventy acres of underground track yards, with thirty-two miles of track. Above the tracks are the office-building part of the terminal, streets, and building sites, many of them already used. When this comprehensive group improvement is completed it will involve twenty city blocks and, perhaps, pay an adequate return on the 180,000,000 dols. spent on the terminal, trackage, and electrification of the railroads using the terminal, which electrification alone made the whole scheme possible.

At the ends of the waiting-room and in the corners of the concourse above the main floor level are several storeys of offices, and circulation between these groups and the main office building in the rear is cleverly established by passageways through the hollow piers and between the outer and inner glazings of the great windows. The window corridors have glass floors and ceilings, and it is quite a sight to see people passing through these at different levels rather phantom-like.

In a measure, the exterior expresses the chief features of the plan, and altogether the Grand Central Terminal must be considered one of the great modern buildings. Warren and Wetmore, with Reed and Stem, were the architects, the former being usually credited with the design while the latter are credited with the planning.

The Pennsylvania Station

The Pennsylvania Station was designed by McKim, Mead, and White, architects, and is one of the last great works to show Mr. McKim's influence to a large extent. It occupies a plot of ground 455 ft. by 800 ft. in size between Thirty-first Street and Thirty-third Street, and between Seventh and Eighth Avenues. The principal front is 455 ft. long and faces Seventh Avenue. The principal entrance in the centre of this front is on the axis of Thirty-second Street. Each side of the main entrance are colonnades screening offices and shops, and at the ends of these colonnades, at the corners of Thirty-first and Thirty-third Streets, are the cab entrances. In the centre of both the Thirty-first and Thirty-third Street sides are important entrances by bridges over the cab entrance roadways, while in the centre of the rear halves of the long side façades and in the centre of the Eighth Avenue façade are other entrances leading directly into the train concourse. The plan is well composed and balanced; it looks extremely well as a design on paper, an important test in a monumental plan.

The arched passageway between the waiting-rooms leads from the magnificent so-called general waiting-room to the train concourse. This concourse is a vast space about 200 ft. by 300 ft. in size, and is roofed over by exposed steel arches on steel columns likewise exposed, the spaces between arches being glazed. In this concourse are the various train gates leading to flights of stairs and elevators to the train level below. Between the train level and the concourse floor level is a mezzanine, which connects with the suburban train waiting-room under the general waiting-room, with the subway stations, with the sub-surface entrance from Thirty-fourth Street, and with sub-surface entrance to the new Pennsylvania Hotel opposite the station in Seventh Avenue. In the concourse are also the news-stands and, quite recently moved from the general waiting-room, the parcel receiving and delivery room. This parcel room is connected by adequate endless belt type carriers to the baggage-room below, and is really much more conveniently located nearer the train gates than was the original parcel-room. At the sides and back of the concourse are flights of stairs leading up to vestibules and entrances from Thirty-first and Thirty-third Streets and from Eighth Avenue.

The walls of the concourse are in masonry, granite, like the exterior, and some brick facing. The steel work is well-designed and of graceful lines. The frank revelation of structure is noteworthy, but the transition from masonry to steel where these materials come in juxtaposition at the walls is often awkward.

The Pennsylvania Station is planned and designed with the view of gaining architectural effect, and it succeeds admirably in this respect. One cannot help but

feel, however, that if the travellers' convenience and comfort had been considered in combination with this effect the greatest building of modern times might have resulted. The magnificent plan is one of long distances and many flights of stairs; the result has been that with time travellers have discovered the minor entrances and short-cut passages, which are numerous, and which get them to and from trains more quickly, more conveniently, and with fewer steps than the prescribed line of circulation indicated by the plan. And the magnificent general waiting-room fails in its function; it cannot impart its glorious architectural impression to a traveller who does not come within the range of its spell, because he saves time and energy by taking another path.

The Stations Compared

A controversy once arose as to the comparative merits of two contemporary poets, and a critic came and inquired as to the sense and reason of the argument. "Why not be thankful we have them both?" said he. We in New York, I think, are thankful that we have both these magnificent stations, and there is little reason for argument as to their comparative merits, yet one is tempted to make this comparison.

The two stations are about a mile apart; between them lie the retail shopping district, the hotel and theatre districts of the city. The immediate environment of the Grand Central Station is far superior to that of the Pennsylvania; its close proximity to Fifth Avenue helps it much. From the standpoint of pure design, the Pennsylvania Station is part for part and as a whole incomparably the better of the two. From the standpoint of ingenious solution of a tremendous problem the Grand Central is easily the better. As a convenient "connecting link between the service of the railroads and the public who use that service," the Grand Central Station is again superior. Considering circulation alone, in the Grand Central it is compact and easy; despite its various levels, there are practically no steps nor stairs, connections are all made by ramps of easy gradient. In the Pennsylvania Station, the lines of circulation are long and there are many flights of steps, some of them merely to gain interesting architectural effect. Yet we should not think that in the Grand Central architectural effect has been sacrificed for utility or convenience. The Grand Central might have been as superb in design as the Pennsylvania, the difference is due to the difference in temperament of the designers. As a splendid, dignified, scholarly, aristocratic solution of a vast architectural problem, the Pennsylvania Station is memorably impressive. As a highly ingenious, almost pyrotechnical, brilliantly useful solution of an extremely complex problem, the Grand Central Station is equally impressive.

Obituary

Mr. Frank Matcham.

We regret to record the death of Mr. Frank Matcham, who for many years had specialised in theatre design in this country. He died unexpectedly at his house at Westcliff-on-Sea, Essex, as a result, it is believed, of blood-poisoning, brought about through cutting his finger nails.

Born at Newton Abbot sixty-six years ago, Mr. Matcham was attracted by the peculiar problems of theatre design early in his career, and it is estimated that more than a hundred theatres and music-halls have been built from his designs. One of his earliest works was the Brixton Theatre, and one of his latest the Bristol H drome. Mr. Matcham designed ar constructed many theatres in Lo including the Coliseum, the Palla and the Victoria Palace. His plan play a high degree of technical abili

Sir Alfred Butt writes to the " Mail":—

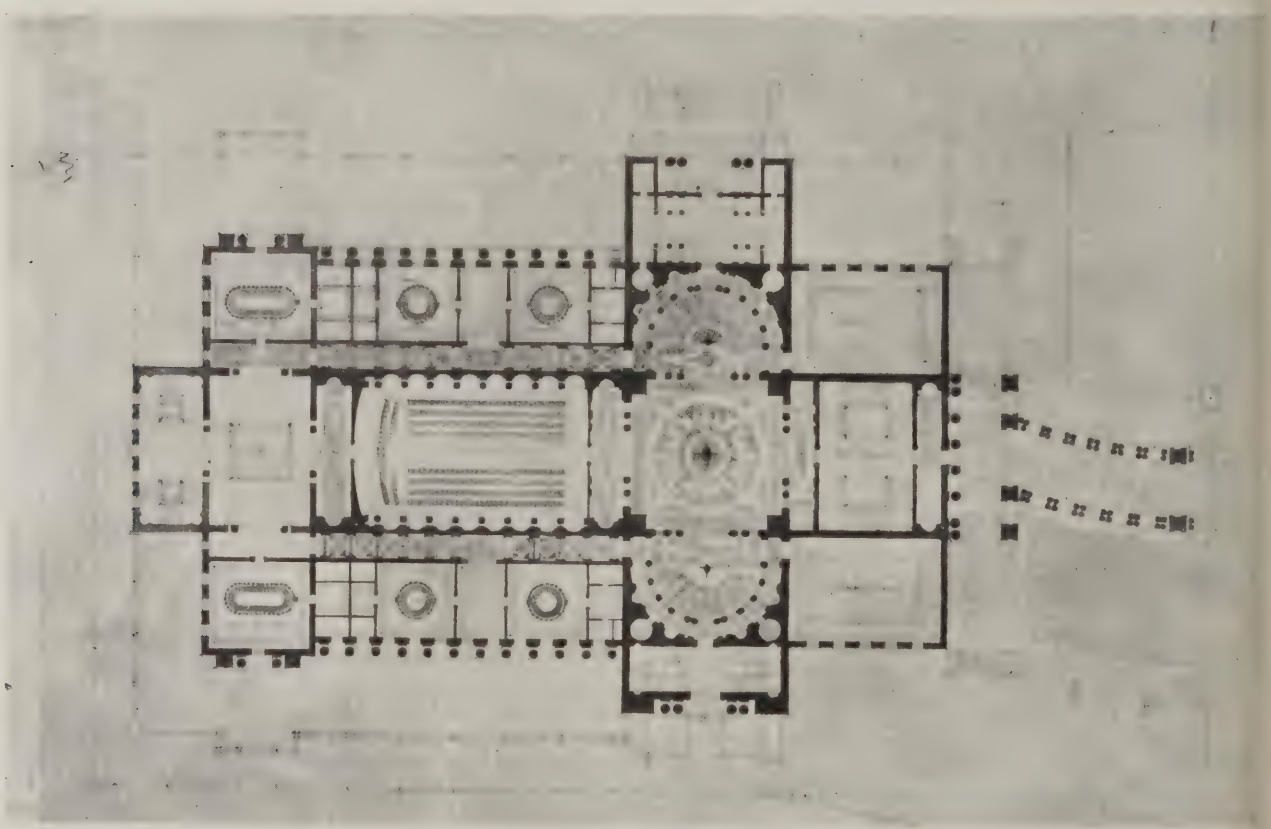
"I had seen him very many during the last five years in regard t construction of the new Empire, wi palatial restaurant overhead and ki underground, and he always told me his ambition was to be allowed to carr that scheme. Frank Matcham had ma lifelong study of what is known as the of sight,' and his first anxiety w assure that every member of the aud had a perfect view of the stage. By the irony of fate I was only yest considering three alternative sch drawn up by Mr. Matcham—probabl last thing he did—to modernise L Lane, and had decided to recommen second suggestion for fulfilment."

Mr. William Roberts.

The death has occurred of Mr. Wi Roberts, wood carver, who has bee over forty years in the service of M John Daymond and Son, of Westmi architectural sculptors, carvers, modellers. Mr. Roberts is believed the last survivor of the craftsmen actually worked on the oak enrichme Carpenters' Hall, E.C., carried out b firm in 1879-80 to the designs of the Mr. W. Pocock, architect.

Mr. R. R. Brown.

The death has occurred of Mr. R Railston Brown at the age of sixty y In the days of the old Local Boar was Surveyor of Bridlington, but practised for himself.



PART PLAN OF ROME SCHOLARSHIP DESIGN FOR HOUSES OF PARLIAMENT FOR A BRITISH COLONY.

F. O. LAWRENCE, B. ARCH. (LIVERPOOL), A.R.I.B.A.

Architectural Designs. 4.—Houses of Parliament for a British Colony: Principal Elevation

(Winning Design, Rome Scholarship in Architecture)

By F. O. Lawrence, B. Arch. (Liverpool), A.R.I.B.A.

ROME SCHOLARSHIP IN ARCHITECTURE — HOUSES OF PARLIAMENT FOR A BRITISH COLONY — SIXTEENTH ELEVATION TO RIVER

In this design Mr. Lawrence has achieved a fine effect of composite unity, but the principal blocks, although they make effective balancing units, lack symmetry as individual compositions. Another point of criticism is the curving of the connecting colonnade, which would have been better straight. (See plan on opposite page.) The design, however, must be regarded as one of great merit, when the severe and exacting conditions under which it was produced are borne in mind. The competitors were required to work *en loge*, and a sketch design of the project, from which no radical departures were permitted, had to be produced on the first day of sitting. The time allotted for the production of the finished drawings was eighteen days of nine hours each. Cordial congratulations on the success achieved are due to Mr. Lawrence, as well as to Liverpool University.

The Federated Builders' Code

3.—Bills of Quantities

By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

(Continued from page 656, No. 1324.)

s perhaps not generally known that committee is now sitting, which I elieve is composed of members of the ors' Institute, members of the Quan-rveyors' Association, and members of tional Federation of Builders, which stigating the subject with a view to lating a national standard. The ated Builders have voted a sum of towards research in the subject, a inadequate amount. But the thing eally matters is, that the quantity or shall make use of the standard e held responsible for its successful ng, as the quantities shall embody tems of *material and labour,*" and, ragraph 3 of Sub-Clause (b) of 2 of the Regulations, "shall be discriptive of all *labours and ials* required for the proper ion of the works, and they contain all needful information ent for the proper valuing of the s items." The question is: Will the onal Standard method of measure-" enable the quantity surveyor to per-this task, and at the same time ob-a warranty from the employer nteeing the accuracy of the bills of ties? With the single exception of stem I have propounded (if I may be ed for mentioning that matter here) is no method of quantity surveying an reasonably fulfil these conditions.

e Valuation of Additions

s is again apparent from Clause 32 Schedule of Conditions, the 4th, 5th, 6th paragraphs, dealing with valua-and variations, which are as follows: measured variations shall be valued rates contained in the priced bills of ities, or, where the same may not , *at rates proportionate to the prices n contained.* The amount to be ed on either side in respect of the ions so ascertained shall be added to ducted from the contract sum, as the nay be."

rovided that if the contractor is put y *additional cost on material and r* through the operation or extension ny Act of Parliament, Government r or Regulation, or similar instruction n operation at the time of tendering e works, such cost, with the addition per cent. in lieu of profit, shall be in-d in the account by the quantity sur-and added to the contract sum."

rovided that in valuing any addition n is to be added to the contract sum, quantity surveyor shall include *any ional cost or costs, charges, or ex-s* which the contractor may have in-d by reason of the work so added not g been in conformity with and/or ited under the same conditions as the shown in the signed drawings and ded in the bills of quantities, and the tity surveyor shall add or deduct as ase may be *any difference in the cost y material used or labour employed in vork so added which there may have been between the market price of such material or current rates of labour at the date of the signing of this contract and the date when the contractor had to execute such additional work, together with an amount of profit pro rata.*"

The italics are mine, and are meant to bring out the points and clearly indicate the problems, and it will be interesting to see in what way the "National Standard method of measurement" will deal with them. Being for the present denied this aid, the quantity surveyor has a colossal task to comply with these requirements by any known system of quantity surveying, other than the one just mentioned, and almost an impossible one without reference to the contractor's analysis of prices of each item in the schedule of prices, which the contractor ought to have made when estimating the original works. Now it is safe to say that an analysis of prices of each item in the bills of quantities is made in but a few cases when estimating, and as there is no obligation on the part of the contractor, by the Code, to do so or produce it to the quantity surveyor, then duties and responsibilities are imposed upon the quantity surveyor beyond reason. Nevertheless, by the Code, he must fulfil them, and it may be supposed that if he fails in the execution of his duties to the satisfaction of the contracting parties—employer and builder—he will be held liable to the employer who engaged him. Here the Federated Builders are presuming to dictate to the quantity surveyors what their duties shall be, and how they shall be performed, without corresponding rights on the part of the quantity surveyors to determine these duties, and whether they are reasonable of performance.

The Measurement of Additions

The first paragraph of Clause 32 demands that "All authorised variations (for which a price or prices may not have been previously agreed) shall be measured and valued with the contractor (or his representative if he so elects) by the quantity surveyor, and a copy of the bill of such measurements and valuation shall be given to the contractor, together with all details of all such measurements and valuation if he shall so request." Nothing is here said as to whether the contractor or his representative shall be competent to measure, or what procedure shall be taken in the event of disagreement between the contractor or his representative and the quantity surveyor as to measurement and valuation of works. It would entail an enormous amount of labour on the part of the quantity surveyor if he should have to supply a copy of the "meaurements and valuation" to the contractor at his request, and it does not say for what purpose these are required. The contractor may impede, by his act or acts, and for purposes known only to himself, the quantity surveyor from complying with the second paragraph of Clause 32, wherein it is required that he shall measure up the work, and the final accounts shall be completed and agreed with the contractor within three months of the completion of the work. It also does not state that the contractor will indemnify the quantity surveyor against any action of the employer for non-fulfilment in accordance with this clause. It must be admitted it would be construed that the quantity surveyor must have known, or that he should have known, when he undertook the work, that he could reasonably comply with the provision laid down in the Code which defines these duties and requirements. If obligations are demanded from the quantity surveyor, then there must be such obligations on the part of the contractor as will guarantee to the quantity surveyor such freedom as will warrant his giving an undertaking to perform and accomplish his duties.

The Quantity Surveyor's Risk

Clause 11 of the Regulations, and Clause 31 of the Schedule of Conditions, are of vital interest to the quantity surveyor. The former sets out that the work shall not be entirely measured during execution or at completion unless it is so stated in the bills of quantities, or mutually arranged between the parties, whilst the latter states that "if any error should appear in the bills of quantities (other than in the contractor's prices and calculations), or any difference between the contract drawings, or should there be any omission from the bills of quantities, such error, difference, or omission shall be rectified, and any extra work occasioned by such rectification shall constitute a variation from the contract." Seeing that the employer has guaranteed the accuracy of the bills of quantities, and it was not mentioned in the bills of quantities, or mutually agreed that the works should be measured, the contractor would be within his right by the Regulations in refusing any deduction if it should be found that the bills of quantities had been taken out in excess of the works; but by the schedule of conditions any error or deficiency or omission which would operate against the contractor shall be rectified. The employer would have no redress against the contractor, as he would be barred by his own act from denying their accuracy; therefore his remedy would lie in an action against the quantity surveyor for any excess in the bills of quantities, or in those cases where they are taken out "full." Quantity surveyors would need to protect themselves against this one-sided policy.

Summing up the position from the quantity surveyor's point of view, they would have greater responsibilities and duties in complying with the Code, and they would have a far greater amount of work to do. It therefore follows that these should be met by an increase in fees, which would mean a corresponding increase in the cost of the works.

(To be concluded.)

Societies and Institutions

Architects' Benevolent Society Annual General Meeting.

The annual meeting of the Architects' Benevolent Society was held in the rooms of the Royal Institute of British Architects on Wednesday, May 12. Mr. J. W. Simpson, P.R.I.B.A., the president of the society, occupied the chair. Among those present were: Sir Banister F. Fletcher, Mr. Henry Lovegrove, Mr. George Hubbard, Mr. Herbert Shepherd, Mr. Andrew E. Taylor, Mr. Albert E. Kingwell, Mr. William Grellier, Mr. Sydney Perks, Mr. Hilton Nash (hon. treasurer), Mr. Dircks (secretary). The secretary read the annual report, from which the following extracts are taken. The president moved the adoption of the report.

The Government Committee on the Prevention and Relief of Distress decided in July to discontinue the grants for the payment of salaries of the workers on the Civic Survey, and in view of this decision the Civic Survey Joint Committee found it necessary to bring the work to a close in October. It will be of interest to members of the society to know that during the existence of the surveys £13,800 was received from the Government Committee, and that in addition to this amount £825 16s. 1d. was received for work undertaken for the Air Board and £39 6s. from other sources, making a total of £14,665 2s. 1d. Out of this sum £13,900 15s. 8d. was paid in salaries, while (apart from a balance in hand of £67 14s. 9d.) the remaining expenditure was incurred in essential expenses connected with the work. No expenses connected with the official administration of the scheme have been incurred by the society.

Although the Government Committee have brought the work of the Civic Survey to a conclusion they have placed a grant at the disposal of the society for the further assistance of architects affected by the war. A Special Committee, entitled the Architects' War Relief Fund Committee, on the suggestion of the Architects' War Committee, has been formed to consider applications.

The amounts placed by the Architects' War Committee at the disposal of the society have been administered both by the society and the Professional Employment Committee, and the sum of £4,492 6s. 2d. has been paid for subsidised work organised by that committee and in special grants.

Loan Fund: The sum of £273 11s. has been granted in loans during the war.

So far as the general funds of the society are concerned £1,042 has, during the past year, been distributed in grants to applicants, while £183 10s. has been paid in pensions. A legacy of £25 has been received from the executors of the late Mr. H. W. Lonsdale, an old subscriber; and among the donations the following amounts have been received: Mr. R. M. Lucas, £12 12s.; Tylers and Bricklayers Company, £10 10s.; Mr. John Keppie, £10 10s.; Miss B. A. Charles (general funds), £5; ditto (war fund), £20; Sir Banister Fletcher, £5 5s.; Mr. Herbert Shepherd, £5 5s.; Mr. Rees Phillips, £5 5s.; Mr. Eric Morley, £4 4s.; Mr. H. A. Crouch, £3 3s.; Mr. A. B. Burleigh, £3 3s.

The council hope that every architect in active practice who can afford to contribute will become a subscriber. The claims of the society are likely to be largely increased, and in view of the excessive cost of the bare necessities of livelihood it is feared that the council will be unable adequately to meet the demands made upon the society unless there is a considerable increase in the number of subscribers as well as in the amounts subscribed.

On the motion of Mr. Henry Lovegrove, seconded by Mr. George Hubbard, the council for the ensuing year of office was elected as follows:—President, the president of the R.I.B.A.; Vice-President, Mr. Reginald St. A. Roumieu; ordinary members, Mr. Sydney Perks, Mr. Arthur Crow, Mr. George Hubbard, Mr. T. E. Collcutt, Sir Banister F. Fletcher, Mr. W. Campbell Jones, Mr. E. C. P. Monson, Mr. Herbert Shepherd, Mr. Stanley Hamp, Mr. Saxon Snell, Mr. W. Henry White, Mr. William Woodward, Mr. E. J. Sadgrove (nominated by the Society of Architects), Mr. Maurice E. Webb (nominated by the Architectural Association).

Ulster Society of Architects.

A general meeting of the society was held in the Ocean Buildings on May 11. Mr. T. W. Henry, M.S.A., occupied the chair, and was supported by a large attendance of members. The report of the society council which meets every month was read by the secretary, and dealt with, amongst other subjects, a request from the R.I.B.A., London, for the society's support on the question of the "unification and registration of the architectural profession," and that a representative be appointed to act on a committee in course of formation in London. It was resolved to send to the president of the R.I.B.A. a resolution strongly supporting this very necessary reform. The resolution was passed unanimously, and Mr. N. Fitzsimmons, F.R.I.B.A., consented to act as the society's representative on this committee. The hon. secretary (Mr. E. R. Kennedy) submitted the report of the Education Sub-Committee, who have been in consultation with Mr. Ivor Beaumont, M.S.A., headmaster of the School of Art, and tabled a suggested programme for the formation of a Belfast School of Architecture, with a three years' course for students, to be carried out by means of day and evening classes, a diploma to be given at the end of the course to those students who would reach a certain standard. Mr. Beaumont, who before coming to Belfast was on the staff of Sir Edwin Lutyens, F.R.I.B.A., is taking a very keen interest in the architectural education of the junior members, and the meeting unanimously decided to give to Mr. Beaumont and the sub-committee the whole-hearted support of the profession locally in carryng through this scheme. It was decided to hold the annual exhibition of the society during the week commencing June 21 in the Belfast Art Gallery, kindly lent for the occasion. The R.I.B.A. have kindly consented to loan their scholarship drawings, which will add considerably to the attraction of the exhibition. The Londonderry Committee, through Mr. Buchanan, issued a cordial invitation to the society to hold their next general meeting in the Maiden City, and it was decided to accept the invitation, and the date was fixed for May 27, the president conveying to the Derry members the thanks of the society for their invitation.

[This instance of a society's holding its general meetings in various towns in rotation is noteworthy.]

Sir John Soane and Bank of England

In his third and concluding C Lecture at the Royal Society of Arts Bolton dealt with the subject of Sir Soane. He pointed out that young S at the age of fifteen had come to Lo in the year of the start of the Ad 1768, that his winning of the Gold M in 1776 almost coincided with the m point of Robert Adam's career, and t fore after the great wars (1793-1815) over Soane, by reason of his reachin great age of eighty-four, came to be rated as the survivor of the then a legendary period of Robert Adam William Chambers.

Mr. Bolton said that as their r were doubtless running on the subje the Bank of England, Soane's m piece, he had brought some eighteen splendid diagrams made for the lectures of the epoch 1809-37, to illu the interiors of that national buil These, with the lantern slides, thr which had been specially photogra for the occasion of this lecture, show how the building grew up d Soane's forty-five years' tenure of the of Architect to the Bank. The exist he pointed out, of a great one-storey b ing of eight acres in the very cent London was, in relation to the Exchange and Mansion House, of a n similar architectural scale, a fact o greatest importance. There was said of civic centres, but here we ha things stood, a great open area of and air and a group of buildings whi our memories formed some central for London. It would not be a matt indifference to the citizens that suc open space should be built up, quite from the artistic value of interiors those of the Bank, which were of ordinary interest and value. Soane been the real pioneer of the Greek re though brought under the direct infl of Chambers at the Academy Sc When first built the Bank had immense offence to the older school. distinguishing feature of Soane's nality was that of reaching a harmo its own. The general effect was deniable, whatever the subsequent tioning of the method and detai which it was built up. The awk corner at the north-west of the site, us called the Tivoli Corner, was an ac ledged masterpiece. It had cost S endless labour and thought during years 1803-4 and 5, each of which marked by different scheme, now t seen illustrated in the new Students' of the Soane Museum. It was fin about 1808. The Princes Street ent was a most remarkable vestibule o in Greek Doric, and led to the still original open loggia of the Gove Court. The Lothbury Court and famous Rotunda were also illustrate described. The original of the fa interiors of the Museum was to be t from Pitshanger Manor of 1800-2, an first house of 1792 in Lincoln's Inn F

In concluding, Mr. Bolton said h had the pleasure of giving these le dealing with the three-quarters of ce from 1758-1837 in the home of a S which had been nominated by Sir as the elector of one of the represen trustees of his Museum, and in a bui which Robert and James Adam had in 1772-4. Mr. Menzies, the Secret the Royal Society of Arts, who pre moved a vote of thanks to the lectu

T. G. Jackson on Modern Architecture

'hen mere novelty passes for ality, and eccentricity is mistaken nius, it is time to speak out plainly," Sir Thomas Jackson in a vigorous : in the "Times" on modern on architecture.

hitecture, he says, is in as bad a way e other arts. Good work is being and our best is far better than was done sixty or seventy years ago, ur worst is infinitely worse. Till the enth century buildings were not Droll and uninteresting perhaps; Harley Street is not ugly, and in yson's "long unlovely street" of ole there is nothing to offend. Bad ecture began with art criticism and hools. I do not say they caused it, they were coincident. In the enth century ugly things were not they began when we began to talk art instead of practising it.

s brought art into the sphere of con- effort, and that is fatal. Art, to any value, must be unconscious, in- ive; design should come because you : and cannot help putting what you nto shape. Tradition, of course, is sary, and when that fails the artist a loose end. Now tradition is ignored, and art criticism will not supply its place.

Take, for instance, the memorials of the dead. It is my lot to be on two diocesan committees to which designs for war memorials must be submitted, and their general quality is beneath contempt.

What has art criticism to say to this? What has it to say to the wholesale degradation of our London streets and squares when the ground leases fall in? Mount Street was a street of good plain brickwork; it is now rebuilt, and is a nightmare of cheap vulgarity, executed in what my friend Norman Shaw used to call hard-bake. Did any art critic raise his voice to condemn it? I trow not.

Russell Square, again, with its honest, substantial, well-designed houses: why should its respectability have been outraged at the end of the lease by putting terra-cotta trimmings round the doors and windows, as silly and unmeaning as they are ugly? Did this provoke any art critic to raise his voice in protest? If not, what is he for?

The source of these crimes is the idea that ornament and novelty are necessary to art. Mount Street in its old state and Russell Square would be condemned as commonplace. But that is exactly what street architecture should be, except where there is occasion for anything special. The Rue de Rivoli is commonplace without ornament, for there is no occasion for any, but I doubt whether it would be an improvement to interrupt it with such a monstrous pile as that which breaks into and disgraces the east side of Regent Street.

THE "ALAMEDA," AMPTHILL, BEDFORDSHIRE—SITE SELECTED FOR THE LOCAL WAR MEMORIAL.

Industrial Council for the Building Industry

A meeting of the Industrial Council for the Building Industry (Building Trades Parliament) was held in the Grand Hotel, Charing Cross, Glasgow, on Thursday and Friday last, May 20 and 21.

The agenda was as follows:—

1. Notice convening the meeting.
2. Minutes of last meeting and matters arising, including adjourned discussion on the constitution of Sectional Committees.
3. Treasurer's report.
4. Receive reports, if any, of Council Committees, and if thought proper resolve thereon: (a) Resettlement Committee; (b) Educational Committee; (c) Management and Costs Committee; (d) Welfare Committee (copy herewith); (e) Administrative Committee.
5. Receive and if thought proper resolve upon communications, if any, from (a) Ministry of Labour; (b) Educational Department; (c) Home Office; (d) Ministry of Health; (e) any other Government Departments; (f) any other correspondence.
6. Consider Report of the Committee appointed to examine the scheme for a National Wage Board, submitted by representatives of the Painting Trade.
7. Any other business that may be presented by the Chairman.

Through the good offices of the Scottish members, the Corporation of the City of Glasgow granted a reception to the members of the Council in the City Chambers on Thursday evening, at 7.30 p.m., when the visitors were welcomed by the Lord Provost.

A report of the meeting will appear in our next issue.

Ampthill War Memorial

The small town of Ampthill, in Bedfordshire, has acquired, through the munificence of His Grace the Duke of Bedford, K.G., a magnificent promenade, consisting of an avenue of lime trees called the "Alameda," to form part of the town's War Memorial. This magnificent grove, planted in the eighteenth century by the celebrated Lady Holland, who formerly resided at Ampthill Park, is reminiscent of the "Alameda" at Madrid. When Lady Holland schemed the "Alameda" a pair of graceful wrought iron gates marked the approach. Twenty-three years ago these gates were removed to form the entrance to the modern buildings of the Grammar School on St. Peter's Green, Bedford. Not only is the "Alameda" unique in England, but it is distinguished by the "Duke's cottages," five in number, erected early in the last century on the model of the cottage *ornée*. These cottages are the finest specimens of their type in England, the design being simple, the windows leaded, and the roofs thatched; but for the tablets giving the date of erection the character of the cottages closely resembles late seventeenth-century work. Ampthill will now possess a War Memorial approached by an avenue half a mile in length. It is proposed to erect, from the designs of Messrs. Richardson and Gill, a cenotaph of simple character to terminate the vista.

The Bulk Storage of Petrol

When the Home Secretary, recently questioned in Parliament, expressed the view that the bulk storage of petrol in underground tanks was a policy which should be encouraged, and that his department had decided to increase the amount of storage for all kinds of oil fuel, he performed a signal service to the commercial community by thus officially sanctioning and approving the innovation. The new system, which has been adopted for years in Canada and the States and also on the Continent, is now making many converts in this country, where its economic advantages have been quickly realised by transport companies, private garage proprietors, municipal authorities, and the larger commercial consumers of petrol. Nor is this surprising, if one compares the two methods. In the old, it was the custom to stack as many two-gallon tins of petrol as the law permitted in a store or cellar—not always suitably constructed—where the petrol which leaked from the tins, or was spilled when they were being emptied, produced a vapour which only needed the admixture of air to make it liable to explode if ignited. Other inconveniences, such as the loss of time involved in handling the tins, and the contamination often arising from dirty surroundings, are only too familiar to those who have experienced them.

Bulk storage, on the other hand, prevents all waste, and, moreover, involves practically no risk of fire. As to this, the Fire Underwriters' Association of America considers it to be the only safe method of storage.

Another most important consideration arising out of the adoption of the bulk storage system in America is that the American insurance companies offer very favourable rates where it is in use. A similar concession should, and probably will, be made by English companies when the system becomes more widely known.

Underground storage tanks are generally constructed of steel with welded seams, and because they are sunk in the ground they form the natural place for the safe keeping of so volatile a liquid, which is thus kept out of reach of fire, and at a sufficiently low temperature to prevent evaporation.

The tank fittings consist of a vent to allow the passage of air to and from it, a fill-pipe for the delivery of the spirit from the tank wagon, and a connecting suction pipe.

An underground tank, such as has been described, is complete when connected to a self-measuring pump, an illustration of which accompanies this article.

These pumps are built in two sizes, the one-gallon and the five-gallon size, and are so constructed that one complete operation of the pump delivers one gallon, or five gallons, of spirit according to its size.

Each size pump is also designed in two patterns, one for standing inside the building, and the other (totally enclosed in a mild steel casing to render it weather proof) for standing in the open.

A brief description of the mechanism of the pumps may be of interest:

Discharge is made from overhead through a 1-in. metallic hose terminating in a quick-acting anti-drip nozzle. The object of running this hose from a point overhead is to enable the operator to get the necessary slope on the hose for it to drain automatically.

This hose is made of flexible, smooth-bore metal tubing encased in a composition covering, both resisting the action of petroleum spirit, and is protected on the outside by a heavy woven jacket.

A large dial discharge register records the gallons pumped through, thus preventing all miscount.

The pump is also fitted with a meter which registers the exact quantity of liquid pumped up to 100,000 gallons, and then automatically repeats. This gives the garage proprietor an absolute check on the quantity of spirit that has passed through his pump.

When smaller quantities than those given by the complete operation of the pump are required this may be done automatically as pre-determined by the operator by the use of the quantity stops with which the pumps are provided.

The type of pump with which the public will become most familiar is the five-gallon outside, or kerb pump. There are countless positions on the main minor routes in the British Isles where pumps on the kerb would be of great service to the motoring public. A good deal of time and inconvenience would be saved by facilities of this kind for obtaining petrol.

Each of the outside types of pump is fitted with a large illuminated globe which arrests the attention of passers-by, and at the same time affords light for the pump to be operated satisfactorily after dark.

Installations of the type above described—now being fixed to garages all over the country by the Anglo-American Oil Co.—well illustrate the high efficiency which has resulted from the application of scientific methods to the solution of such an important commercial problem as petrol storage and distribution. Every aspect of the question has been thoroughly studied, and particular care has been taken to view the matter from the consumer's standpoint.

Much difficulty in supplying petrol to customers is often experienced by the proprietors of large garages which have more than one entrance at inconvenient distances. Cars may arrive at either door, and a great deal of running about with petrol tins results. To obviate this excessive and wasteful labour, the company has recently introduced a portable wheeled tank with a one-gallon capacity attached, which can be readily mo any desired spot, or placed on a li carried to an upper garage.

This apparatus, which is fitted v brake, an indicator, and numerous devices for facilitating its use, sho of great use to the night man, whose frequently include the filling up tanks overnight in readiness fo owners the following morning.

News Items

£1,250 Memorial Gift to Eton

A gift of £1,250 has been made t College by Sir James Knott, whic be employed in building a portion extension of the side aisle of Lower C

A War Memorial Competition

The Goole War Memorial Com are prepared to consider designs for memorial. Enquiries should be add at an early date to Mr. J. E. Castle, tary, Council Offices, Goole.

£5,000,000 for Housing.

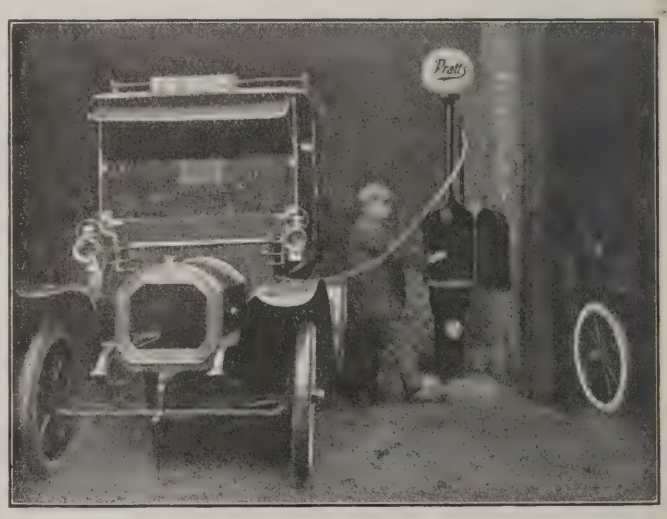
The L.C.C. have passed formal tions for the issue of local bon housing to the extent of £5,000,0 £100 for each hundred pounds of carrying interest at the rate of 6 pe per annum, and formed a Housing Campaign Committee for London i nection with the issue.

Jewish War Memorial.

So far £130,000 has been contribu the fund for the Jewish War Memor is proposed to raise £1,000,000 for t dowment of religious education, the lishment of a college of Jewish le for the training of rabbis minister teachers, and making better provisi the Jewish ministry.

A Great Camp Sale.

A most important sale will take pl Cooden Camp, near Bexhill-o Sussex, on June 2. The auctionee Messrs. Harris and Gillow, of the A Yards, Shoreham-by-Sea, Sussex. number of timber and corrugate huts of all sizes, together with a var Canadian huts, will be put up for a



PETROL PUMP IN CONNECTION WITH UNDERGROUND TANK.

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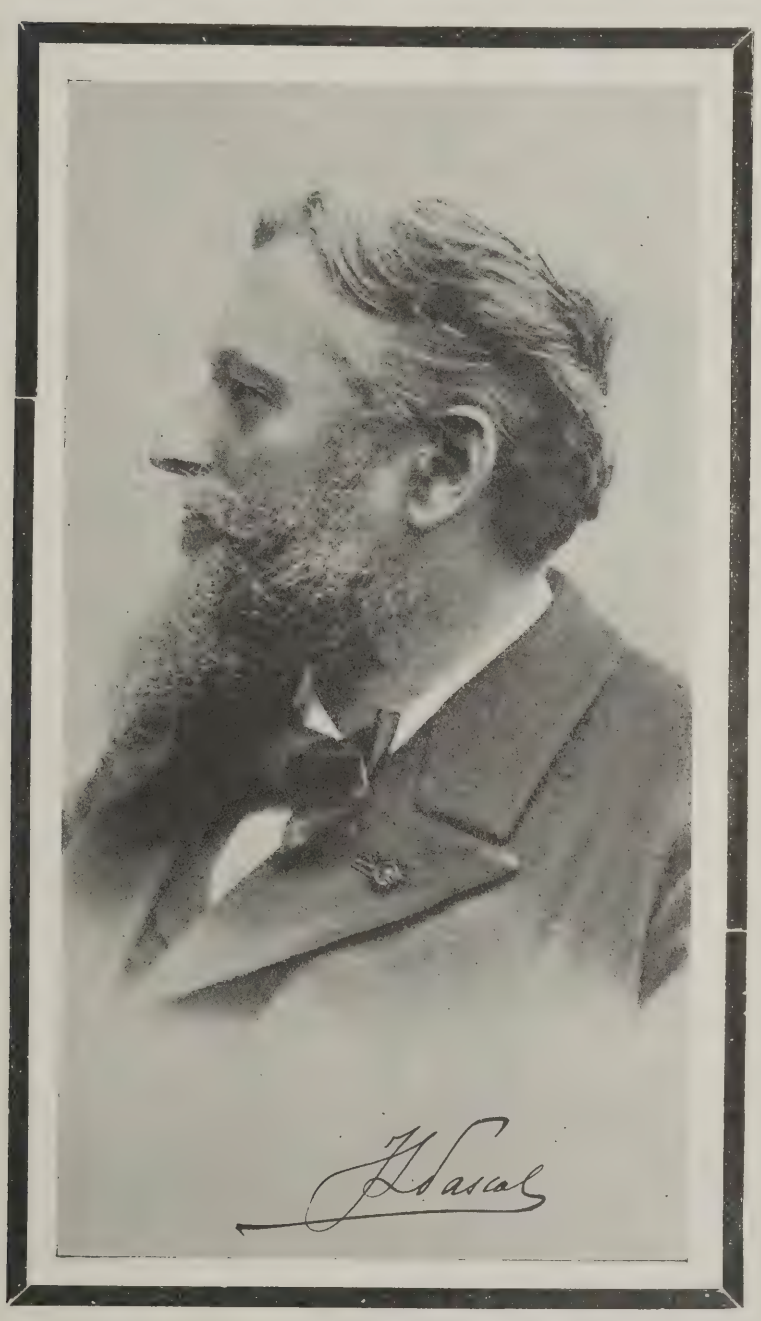
With which is incorporated "The Builders' Journal"



THE LATE JEAN-LOUIS PASCAL, MEMBRE DE L'INSTITUT DE FRANCE.

27-29 Tothill Street, Westminster, S.W.1.

Modern French Architecture. 3.—College of Medicine and Pharmacy, Bordeaux

The Late Jean-Louis Pascal, Membre de l'Institut, Architect

THE
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The Housing Subsidy Injustice

HE conditions of the housing subsidy inflict a grave injustice upon an important section of the community. The Government seems to think that only the so-called working-men need s. For the rest of the people no provision is made Yet there are many struggling professional men eserve consideration. Architects, doctors, lawyers, sors, writers, artists, and ministers of religion—ers of professions in which fees and salaries have sen with the cost of living—have just as much claim the State as any other class. They are compelled, e taxes they pay, to contribute to the building s, but they are not allowed to share in the benefits. naximum floor area is too small to meet their case. reatest accommodation at present permitted is two rooms and three or four bedrooms. The rooms ttage size. Indeed, it is not going far beyond the to describe these State-aided houses, in the some-scornful phrase of a disgusted builder, as "rabbit-es." To those who have been compelled before to tenements or "workmen's dwellings" they may a real advance. To the middle-class man they are sible. They are impossible because they are ear-d for "the workers." They are impossible because lo not meet his needs. He must have two recep-oms and four to five bedrooms and a bathroom. must be a proper kitchen and scullery. This modation can be supplied at less than £1,500, and ate-aided cottages range in price from £600 or to well over £1,000.

grant of the £260 subsidy would bring the f the middle-class home down to some £1,200. At ice it would be worth buying, but, what is of more uence, it could be let at a lower rental. Many sional men cannot afford to buy. They must rent, y Government subsidy which eases the burden of would be a real boon to an important but erished class. There is, too, another advantage ending the limits of the subsidy. As things stand he builder is being bribed to build the smallest , and many of those who build to let to middle-enants are deterred because they are rightly afraid will prove an unprofitable speculation. One builder knowledge offered to put up a number of villas if inistry would grant him the subsidy. This was because the floor area was above the prescribed um. The result is, of course, that he has given idea. "The vital need for more and better houses country," states the Ministry of Health, "calls for iate action. At least 200,000 new houses are l—and badly wanted—this year. The Govern-s alive to the urgency of the situation. . . ." unfortunately, is only in part true. The Govern-ertainly are alive to the claims of Labour, but there not appear to be any recognition of urgency in to any other section of the community. That the ers" are well organised and lustily vocal, whereas ofessional classes and others in the same ranks of are not, may have something to do with it. At ne time, it is surprising that the Cabinet, almost wholly made up of professional men, has not discovered the problem of the middle class yet. After all, the new poor are at least as deserving as the old. Not that they demand any help on that score. It is not a matter of charity, but of equity. They have every right to share in the relief towards which they contribute in taxation. Whether a State subsidy is wise at all we are not prepared to discuss beyond saying that the old political watch-word—"Taxation with Representation"—has apparently been changed to: "Taxation with Presentation."

There is another phase of this question of the State-aided villa which is of special interest to the architect. State encouragement would give a real impetus to domestic architecture. That has an obvious value. In cottage design there is little or no scope. It is otherwise with the villa. Cottages are being put up on the principle of mass production. The villa is individual. It is not subject to the same crippling limitations as the cottage. Yet the villa is being neglected. Few villas are being built, and no official interest is shown in their design. Yet it would be worth the while of the authorities to offer prizes good enough to tempt our best architects to submit plans and so stimulate an important branch of architecture and educate the public too.

We do not see why, at the same time, local authorities in their housing schemes should not include villa property. Garden cities and suburbs, built by private enterprise, have done so with success. If it is right for a Town Council to build for the manual worker it cannot be wrong for them to build for the man who works with his brain. Moreover, such a plan would add much to the value—æsthetic and economic—of the housing scheme. It would also help to break down those class barriers which are a menace to the well-being of the State.

The one objection to the removal of the injustice of limiting the housing subsidy to cottage property is that of finance. We freely recognise the difficulty. It is a real one, and we would not minimise it. But the people need houses. They need houses no less because they happen to work in an office or a study. Their ability to pay is, in their degree, no greater than that of the workman. In many cases it is actually less. Can the State properly refuse help to one class that it gives to another? To that question there can only be one answer. It is too obvious to stress. As the Government is pledged to a subsidy in the one case it must give it in the other. Dr. Addison is said to be considering the question. What will his answer be?

CROSSLEY DAVIES.

[Our contributor's contention, with which we entirely agree, rests on a basis of equity, ethics, and economy. There are, moreover, practical issues to be considered. He hints at one—the opportunity that should be given the builder to put up something better than rabbit-hutches. We may be permitted to add that the larger house would more certainly require the services of an architect, and would relieve the stagnation that concentration on cottage-building has brought upon the manufacturers and vendors of the various better-class fittings that are essential to the larger dwelling, but not to cottages.]

Notes and Comments

The Guild of Builders

IS Guild revival anything more than a dream? For several years past, as our pages have faithfully testified, builders have discussed the Guild idea very persistently, and at length a scheme has been prepared for presentation to the Building Trades Parliament next August. It is being put forward by the London District Council of the National Federation of Building Trade Operatives, and may therefore be taken as expressing the aspirations of the workers. For that reason it is, on the face of it, more valuable as an index to opinion than as an effective instrument of reform. That it is an ex-parte manifesto by the workers is no sufficient reason for condemning it off-hand, and no doubt it will be fully and fairly discussed by the so-called Builders' Parliament, whose conclusions upon it, whatever they may happen to be, would carry more weight if they were more fully representative. An assembly from which architects are excluded is not truly entitled to be called a Builders' Parliament. Nor will the Guild of Builders justify this appellation unless it is thoroughly comprehensive. The prospectus seems to suggest very strongly that the Guild shall comprise all classes of builders—"whether administrative, technical, clerical, or operative"; and as, according to the letter accompanying the prospectus, the constitution has been planned to be "simple, flexible, admitting of great variety of experimental development, yet designed to secure, for the service of the public, the immense advantages of industrial combination," it is clear that architects as well as building-trade employers will be within the scope of the scheme. In fact, we are promised a sort of guild of universal providers, skilled architects and engineers being explicitly included as essential to carrying on the industry of builders, decorators, and general contractors. Manufactures and merchandise come also within its scope. In fact, the Guild, regarded superficially, bears a striking resemblance to the Co-operative Wholesale Society, from whose polity and pursuits the framers of the constitution of the proposed Guild of Builders for London seem to have derived much encouragement for the notion they have of reducing to practice the theories and ideals of William Morris, of the late Mr. March Phillipps, and of the Guild Socialists of to-day—Mr. G. D. H. Cole and Mr. A. J. Penty, for instance. If, at this early stage, a word of criticism is not out of order—and the operatives distinctly challenge criticism by spreading their prospectus broadcast—it may be useful to say, at the outset, that the scheme is, in our opinion, too comprehensive to be workable, and that it offers so formidable a menace to all sorts of vested interests as to invite strenuous and powerful opposition from many quarters. The avowed object is to make a beginning towards "the great system of National Guilds that, before many years are over, is destined to revolutionise completely the motives and control of industry." Prophecy, whether of the ultimate success or failure of this or of any other scheme of revolution, is a rash adventure on which we do not care to enter, even in the confident and courageous company of the promoters of this scheme. Nor will we throw cold water on it; for it has in it undeniably a humane touch, and a millennial expectancy that beget in the reader a wistful hope—not that the ambitious programme will materialise in all its details, but that the humane spirit, the large trustfulness that it breathes may, while recognised as Utopian, nevertheless, serve to mitigate the mutual jealousies and suspicions that at present beset industry. The scheme posits the whole industry working together in fraternal amity, and has a very tender regard for the victims of sickness and unemployment. And we honestly believe that this scheme for a Guild of Builders, wha may be its immediate fate *qua* scheme (and it has r flaws—such, for example, as the refusal to give mon guarantees on a contract) brings us sensibly n to the realisation of one's cherished hopes for unity co-operation in industry. As we have a firm fai "the spirit of association" and its potency for goo would bespeak for this scheme the thoughtful, pa and unprejudiced consideration that such a si endeavour after equity and fraternity certainly dese Especially we would urge the architect to take his share in the controversy it is sure to evoke. It is a m in which the industry cannot afford to ignore him, a which he cannot afford to be ignored. He must encourage the impression that the industry can do wi him. In particular, the Council of the Institute, an of the Society, should study this movement very clo for how much, or how little, significance it may hol us all it will not otherwise be possible to ascertain.

Sir Thomas Jackson's Diatribe

Sir Thomas Jackson's diatribe against contemp architecture, and against art critics, has drawn th of several journalists, a few architects, and a no critic—Mr. M. H. Spielmann. Sir Thomas, in a to "The Times," had said that "There never was a in the world's history till now when you could assu a matter of course, till you knew the contrary, tha gap in the street caused by demolition of an old bu would be filled by something worse. Till the ninet century buildings were not ugly. Bad architecture with art criticism and art schools; I do not say caused it, but they were coincident." He is afra say it, but he insinuates it; and a writer in the " chester Guardian" shows that the insinuation is co to fact: "Sir Thomas must know perfectly well at the end of the eighteenth century, when and Chambers were in power, every educated man or tried to be—a critic of architecture, and that were more treatises, satires, epigrams, and lam about architecture every year than there have been last twenty years." Yet Sir Thomas, forgetful insinuation against critics, goes on to blame the abstaining from criticism of current architecture. smashing answer to this is contained in a single se from Mr. Spielmann, who asks, "Of what avail, d suppose, would be the denunciation by critics of was already set up, or in course of execution?" A adds, "A bad thing must be stopped before it has set going, not merely abused when it is done." Arthur Smith, F.R.I.B.A., thinks Sir Thomas's o of nineteenth-century architecture entirely wrong cites Westminster and Liverpool Cathedrals in s of the refutation. But to answer the charge there are bad buildings in London by retorting that is a cathedral in Liverpool is as futile as Sir T Jackson's condemnation of the whole tribe of critics self being one of them in this very act of condem The controversy would be utterly barren and were it not that all such discussions, however in minate, lead the public to think a little on subje which otherwise they would give no attention. O other hand, it is hardly fair of the lay Press to pre the case with such sensational headings as "The Cr Silence of the Architects" (this, however, is evi "writ sarcastic"), "Wholesale Degradation," "Ugly London." Many persons will have read n beyond the headings, and will have derived from an impression that is certainly not complimenta architecture, and is decidedly unjust to it. Sir T Jackson should not be so anxious to class himself the laudatores temporis acti. He is too young.

Death of M. Pascal

Jean Louis Pascal, whose death we regret to unce, and of whose career an illustrated account is in subsequent pages of the present issue, was cer- y one of the most forceful, as well as one of the charming, personalities in architecture. Emi- architects by the score acknowledge their indebtedness to "Père Pascal." His pupils, all loved and revered him, have been phenomenally essful, not only in Beaux-Arts examinations, but in work the world over. They include Henri-Paul t, who was the Royal Gold Medallist of 1917, and al other winners of the Grand Prix de Rome; Sir J. Burnet; Charles Mewès and Arthur Davis; and a long list of men of mark in architecture. Like n, he was a great mathematician. Also, he was an mplished planner, and his happiest results were ved when he had a complicated problem to unravel— instance, his treatment of the home of three brother ers in Paris, with its famous triple plan, is erly. If he had lived until the 4th of June he would completed his eighty-third year. When, in 1914, Royal Institute nominated him for the Royal Gold al, the choice was the happiest that could possibly been made. It was a recognition of the great archi- and of the great-hearted man—the Père of his s, the lover of his country against whose great y he had voluntarily borne arms in the disastrous of 1870, and whose complete overthrow he has hap- lived to see.

Modern Theatre Design

e death, a few days ago, of Mr. Frank Matcham, eminent specialist in theatre design," re-opens the e question of theatre building. To Mr. Matcham may pecially applied a sentence used by Mr. Gordon g in an address he delivered at an informal meeting ersons interested in dramatic art. "The artist," he "had a lot of faults, but he knew his job." By ist," Mr. Craig meant "actor." He did not mention Matcham, to whom however the aphorism very aptly applies. Mr. Matcham certainly knew his job, and that is the reason why he was entrusted with superabundant commissions for the design and decoration of theatres. Yet it cannot be good for theatre design—at all events on its artistic side—that it should all be in the hands of some half a dozen architects, in whose ranks a huge gap has been made by the death of Mr. Matcham. One can understand the conservatism of managers, and their nervous anxiety to put "safety first." That is to say, having found out the type of building to which the public will go, they naturally turn to the architect who has proved that he can produce that type, and therefore it is that in England an outside architect seldom gets a chance to design a theatre. In America and on the Continent there is less exclusiveness, because the people know more about architecture and about architects. They can trust any trained architect to "know his job," and hence their choice is not confined to a few specialists, and hence, moreover, American and Continental theatres are much more beautiful, and, generally speaking, much more comfortable and convenient, than ours, which are conventionalized and stereotyped to an appalling extent. But there are signs that we are on the eve of important reforms.

The New Delhi

The New Delhi is to be completed and ready for occupation by 1926. Already the chief public buildings for the new capital of India are rapidly rising, and sixty or seventy Indian princes are building palaces, there being now an ample supply of labour. For the cathedral, of which the designs are not yet finally completed, Sir Edwin Lutyens proposes a great building with a dome. It is conceived in "English Classical" style, adapted to the Indian climate, and ought to cost some £20,000, if the Church of England can raise the funds. Sir Edwin Lutyens (who has pleased all the multifarious races of India by his impressive design for a monument to the Indian soldiers who fell in the war) is very fortunate in his opportunities; and that he knows how to make use of them the Delhi designs in the current Royal Academy Exhibition are convincing proofs.

Sir John Burnet's Memories of Pascal

N an interview with a representative of the Journal, Sir John Burnet, who was the first British student to enter the Ecole des Beaux-Arts under Pascal, ecounted the enthusiasm which came to him when rst met his great master in 1874, when introduced by ate Phené Spiers. "He was standing in one of the eries," said Sir John, "and the trim untrimness of him k me then as being so representative of his architec- ." With dark long hair, black penetrating eyes— in which there shone a light of much kindliness—he nce became for the young student the Great Teacher nose steps all others must follow. There was no r like him; his conception of architecture was so big. nated to think of himself as "influencing" this or that gn; architecture should be above the individuality of "school." And so by a perfect genius he would his students, and so far from imposing upon them own style, would draw out from them their own viduality—the expressions of their own souls. "No ," said Sir John, "was ever more fitted for the iration of the architectural student than he."

ir John thought that Pascal's influence upon his own was, for this reason, nil, and he did not know of building in which his influence could be traced. Sir n's first building in this country was the Institute of Arts in Glasgow. Friends had told him that they erned in it traces of Pascal's style, but he thought they were only led astray because of its studied nature, which was in the French manner.

When on a visit to London some years ago, Pascal was pleased with the "carelessness" in design of the English buildings. The French worked more to rule. But Pascal's work never had anything in it of the T-square and the sharpened pencil: it was sculpture, added Sir John.

Pascal had other English pupils, but they came after Sir John Burnet. There was the late Sir John A. Campbell (at one time a partner in the firm of Sir John Burnet and Son) and Mr. A. N. Paterson, M.A., A.R.S.A., who is still with us. Pascal always remained for Sir John a second father—indeed, in architecture he must have been a first father, considering the important years the young student spent under him—and at least once a year master and pupil would correspond. Pascal's English was perfect and his style was a model of simplicity and charm.

Sir John last saw him in March of last year. When they parted Sir John said, "Au revoir," but the aged architect insisted that it must be "Adieu." News of his death had not been received until an intimation was conveyed by the editor of this Journal, and Sir John said it came as a great shock to him in spite of his old master's advanced age.

The Week's News

Castle Burned Down

Kilbrittain Castle, a fine ancient building seven miles from Bandon, county Cork, has been burned down. The damage is estimated at £100,000.

New Southwark Bridge

The work of reconstructing Southwark Bridge, which was suspended during the war, has been resumed, and it is hoped the structure will be reopened to vehicular traffic within the next three months.

Mill Hill School War Memorial

The war memorial at Mill Hill School is to consist of a "Gate of Honour," which is now being erected in front of the school house from the designs of Mr. Stanley Hamp, F.R.I.B.A. (of Messrs. Collcutt and Hamp).

£2,000,000 Housing Scheme

At a meeting of the Blackwell (Derbyshire) R.D.C., the chairman said that two millions sterling would be required to carry out their building scheme of 1,800 houses. The architect's fee alone was £28,000 and the quantities surveyor's £9,000.

Manchester's Proposed New Art Gallery

The Sub-Committee for the new Art Gallery to be built on the old Infirmary site are considering the framing of the plans. A mass of published material on recently constructed art galleries in this country and abroad is being studied with consideration for the general lay-out of the building, method of lighting, etc.

Peterborough Cathedral Restoration

The Peterborough Cathedral Restoration Committee is appealing for funds to resume and continue the work of strengthening and restoring what time has decayed in the great minster church. A report submitted by Mr. Temple Moore shows how urgent is the necessity for early and comprehensive action if the famous fabric is to be safeguarded. Both outside and inside extensive work will have to be undertaken, and it seems to be impossible to name any less sum than £25,000 as the minimum approximate cost of all that is required.

London's Satellite Towns

In the House of Commons, Dr. Addison, Minister of Health, was asked if his attention had been drawn to the satellite towns for London now being created by private enterprise at Welwyn and by the London County Council at Dagenham; what importance he attached to these ventures as opening a new chapter in the housing, industrial, and social development; and what steps he proposed to take to facilitate the adoption of similar methods. Dr. Addison replied: "I am following with much interest these two schemes, and am actively co-operating with the London County Council in regard to the Dagenham scheme. I am satisfied that the solution of the housing problem, particularly in the case of London, will be materially assisted by schemes of this kind, and I shall do all I can to encourage their development."

London School of Economics

The King, on May 28, laid the foundation-stone of the new building in Clare Market, which, as an extension to the existing London School of Economics, will house the students for the newly established Degree in Commerce. It was in October, 1895, that the London School of Economics and Political Science was founded, so that it is one of the youngest of the larger London colleges. Its first quarters were in John Street, Adelphi, lent by the Society of Arts. It was due to the generosity of Mr. Passmore Edwards, supplemented by substantial do tions from Lord Rothschild and others, that a site Clare Market was acquired. From time to time building was added to, until 1913, when independ persons, appointed under the statutes of the univers to report on the organisation and administration of schools of the university, stated emphatically that " school had outgrown its accommodation," and express the opinion "that the greatest effort should now be ma to provide accommodation of an adequate character a school which had been so signally successful." T architects for the new building are Messrs. Trehearne a Norman, from whose designs many of the fine n structures in Kingsway have been erected.

The Metropolitan Water Board's New Offic

Speaking at the opening of the new head offices of t Metropolitan Water Board, in Rosebery Avenue, M Austen Hall, F.R.I.B.A., the architect for the bui ing, said that work had been stopped for three yea owing to the war, and when he returned from milita service the threads of the great undertaking had to picked up afresh. He paid a tribute to the magnifice work put into the building by the contractors, Mess F. G. Rice and Son, and tendered thanks to Mr. Sc as clerk of works. He would ask the Board to make t building something more than its official residence. was an historic building, and he would ask the Board uphold it as such. They were standing on the same si where were erected the headquarters of the first wat supply for London in 1613.

Devonshire House

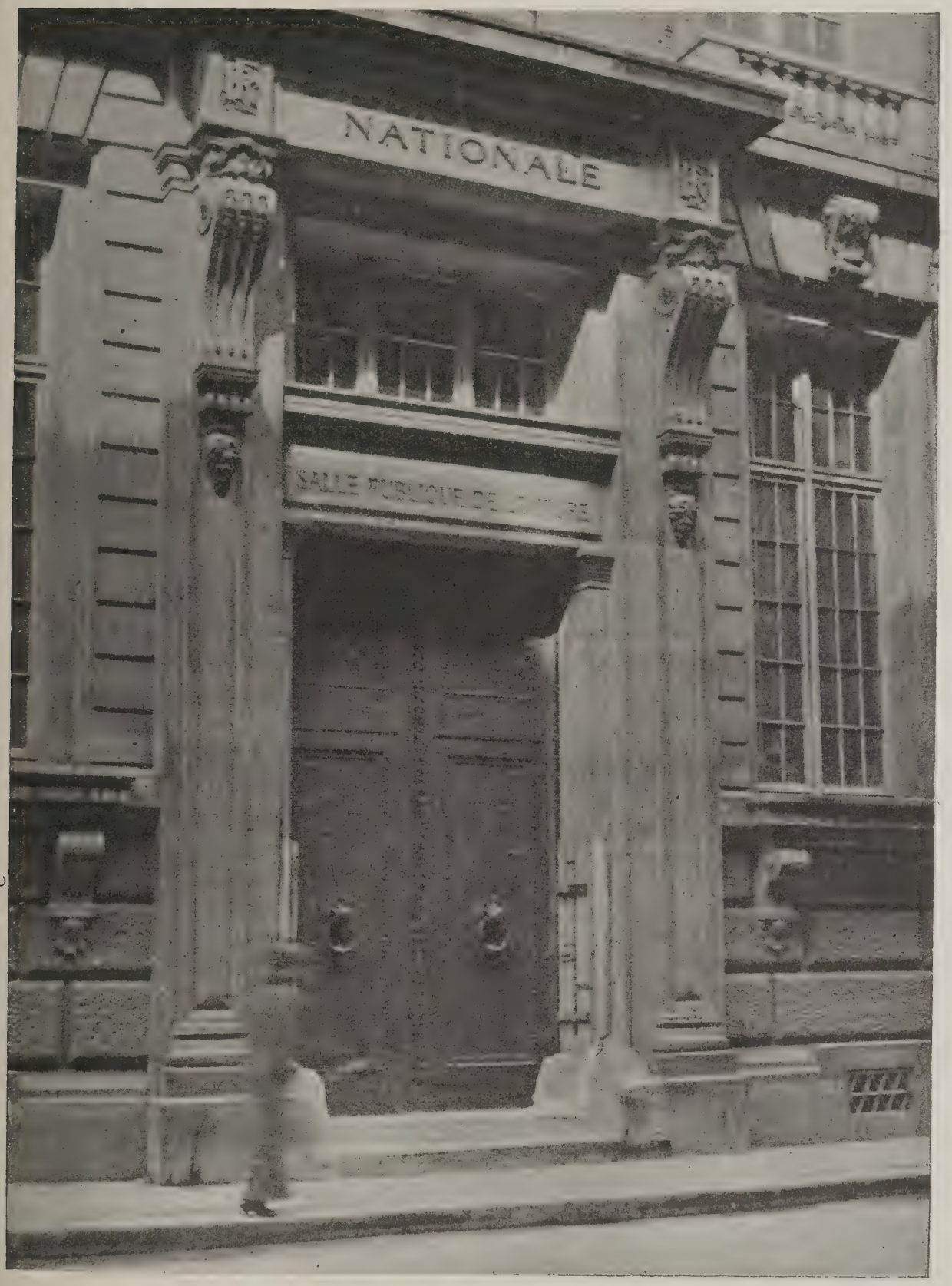
Various statements continue to be circulated concer ing the future of the Devonshire House site, which, co ering an area of 161,000 square feet, was recently so to Mr. Laurence Harrison and Mr. H. E. Barley f 1,000,000 gs. The latest announcement mentioned th the forecourt was to be disposed of in small lots. Th part of the property, however, is included in about third of the site, concerning which the present owne have already entered into a contract to sell, the inte tion of the purchasers presumably being to erect "super-cinema," restaurant, and dancing hall. Th restrictions of the London County Council with rega to the erection of luxury buildings have to be taken in serious consideration, and these might not improbab cause some alteration of the proposed scheme. Th remaining two-thirds of the site are to be sold in lots f houses or shops to suit purchasers.

International Housing Conference

The Inter-Allied Housing and Town-Plannin Congress, which is to open in London on Thur day, at the Central Hall, Westminster, and whic will last for seven days, has upon its programm subjects of important and present interest for discussion They are: "National Post-War Housing and Tow Planning Policies," "The Preparation and Carryin into Effect of National Programmes to Secure Prop Housing Conditions for Every Family," "The Minimu of Housing Accommodation Necessary to Provide for th Full Development of a Happy Family Life." "Standard of Building Construction and the Development of Ne Methods: the Use of New Materials," "National an Regional Town and Rural Planning Developments." A series of visits to study housing and town-plannin schemes has been arranged, Bristol and Birmingha having been chosen, "as in these two towns housin Commissioners are established." The offices of the Co gress will be at 41, Russell Square, London, W.C.1.

odern French Architecture. 4.—Entrance to Bibliothêque Nationale, Paris

The Late Jean-Louis Pascal, Membre de l'Institut, Architect



Pascal succeeded Henri Labrouste as architect of the National Library in 1875. In his work upon the new wing he proved himself a worthy successor, especially in his reconstruction of the façade to the Rue Colbert. Modern Paris has no elevation more beautifully designed or more delicately detailed. The entrance, shown above, is fine in scale and detail alike.

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Architectural Education and Registration

By LIONEL B. BUDDEN, M.A., A.R.I.B.A.

(Concluded from page 676, No. 1325.)

O the objections commonly raised to the policy of delegating to academic schools the bulk of the work of architectural education, cogent and complete answers can be given.

ponents of academic education in architecture are to assume, and to endeavour to inculcate the idea hers, that a University is an institution devoted y to the study of the classics, philosophy, and science, and that, in so far as it concerns itself with ed knowledge and technical instruction, these are treated in an amateur and ineffective fashion. an illusion based on ignorance and prejudice. ever may once have been true about Oxford and bridge in that respect, there are no grounds for ing such an accusation against the younger univer-

In medicine, in engineering, in chemistry, in branch of applied science, they are elaborately ped to give, and do give, the most efficient prac- training that can be obtained; and it is for that n that they attract the majority of their students. epresentation of a modern university as a scholastic uary whose inmates languish in a rarefied atmo- e of abstract theory may serve a debating se; but it has nothing to do with the facts of the

aching Staffs and Professional Practice

other favourite assumption, again and again made e present educational controversy, is that those nsible for the instruction in academic schools of ecture have little or no experience of practical ; that they are "academic" in the sense of being ers pure and simple. Only in a single University l, and that a comparatively small one, has any tion been placed upon the private practice of the

This particular disability—which it is understood ut to be removed—was not imposed by the Univer- n its own initia ive, but as the result of represen a- made by the local society of architects! (It is v necessary to point out that no body of general al practitioners could be imagined protesting to a rsity against the freedom of its professors of ine to practise. The idea would be subversive of rinciples on which medical education is based— n which all technical training ought to rest.) ally, professors of architecture are engaged in ting actual commissions, and it is obviously iable and right that they should be permitted to because of the direct value of the experience to as teachers. For a professor who appreciates the of his position his school will always come first; ll not exploit his official connection with it as a s of increasing his private practice; nor will he in ay suffer his practice to force him to neglect his ng or administrative work. To do them justice, professors of architecture fairly observe their tions; and, if they accept large commissions, it is se they command, outside the school, a personal which can see these undertakings through wi h a um of supervision. When it is well known, as it be, that such is the general rule, there is no excuse e constant attempts which have been made to ent teachers of architecture as persons living in a of books and paper-designs and knowing little or g of professional practice.

orms which aim at getting rid of widespread evils ten opposed on the ground that, if put into effect, vould inflict hardships of various kinds. Thus the sal to regularise architectural education, to place it uniformly on the highest plane and to recognise no training upon a lower level, is met by the objection that many persons who might wish to become architects would, through no fault of their own, be debarred from the chance of ever entering the profession. If they were unable to afford the expenses of a full academic course—and prospective candidates who live in the remoter parts of the country, and have only slender means, would certainly not be able to bear the cost—their case would be hopeless. They would simply be shut out. Not to speak of the injustice done, the profession itself would suffer from the loss of much possible talent, perhaps even of genius, and its membership would be unnecessarily reduced.

Reconstruction of Professional Training

To each of these points there is a conclusive reply. No guillotine scheme is proposed in the first instance. The reconstruction of professional training must take into account the existence of apprentices, pupils, assistants, etc., already committed to the pursuit of architecture under disadvantageous circumstances, which they are powerless to remedy. That the rights of these probationers will be safeguarded in any case is certain. But an early date should be definitely established after which entrance to the profession by any route other than that of a recognised school will be refused. To meet the cases of financial disability thereafter arising, maintenance and education scholarships must be established, a certain number at each recognised school, to be competed for annually by applicants for admission. By this means some sort of guarantee will be provided that those most fitted to survive do so, and that the unsuccessful candidates turn to other occupations for which they are better adapted. Unquestionably the whole tendency of a scheme of regularised academic education will be to reduce the size of the profession. But that will be so much clear gain. There are at present in this country far too many self-created and self-styled architects, far too many small reluctant practices carried on with difficulty by persons of indifferent competence, and yielding only the barest and most uncertain living. In America, where academic training is established, and where the quality and quantity of the work executed so immeasurably surpasses anything done here, there are fewer architects than in the United Kingdom—certainly fewer in relative, possibly fewer in absolute, number; and this though the American population approximately doubles ours.

Fewer and better architects, larger and better practices are what we need, and what we can secure by an intelligent educational policy. The hypothetical injuries which it is feared a regular system of training might cause in isolated instances cannot seriously be weighed against the solid general advantages the system would bring to the profession as a whole.

Architecture at the American Universities

Recently much play has been made with a report of the American Board of Education, adversely criticising various points in the system of architectural training in operation in the United States; and it has been implied that, if the University schools there provoke such criticism, we, for our own part, should be well advised to place no special confidence in the value of the academic model.

The inference ignores on the one hand the excellence of the vast American post-graduate performance in architecture, and, on the other, the peculiar difficulties

under which the American University schools have laboured. In regard to the first, any dispassionate judgment must admit that the average level of architectural achievement in the United States is incomparably higher than that obtaining in this country, a state of affairs for which the combined influence of the academic schools and of the Beaux Arts is directly responsible. In regard to the second—the special disabilities imposed on the majority of American schools—some explanation may be necessary. Superficially the constitution of the normal University in America is that of a free, autonomous body. Actually it is a bureaucratic institution, governed from without by a plutocracy—its millionaire patrons—and from within by officials, largely subservient to those patrons, and possessing autocratic powers of administration.

By an unfortunate arrangement nearly every University school of architecture in America is incorporated, either in a Faculty of Science or in a Faculty of Engineering. As scientific subjects in general, and engineering in particular, are exceedingly popular, and very heavily staffed in the American Universities, the representatives of those subjects monopolise the official posts on their respective faculties. Architecture is crowded out and its departmental claims are disregarded; the schools' spheres of instruction are arbitrarily delimited, and the artistic aspect of architectural instruction is with difficulty sustained and only contemptuously tolerated in an administrative atmosphere hostile to it. Yet, in spite of these adverse conditions, the American academic schools are to-day chiefly responsible for the splendid quality of the best work executed in the States; and their influence on the general mass of production is invaluable.

It is thus obvious that their position in relation to other academic departments merely requires readjustment for them to accomplish still more and to escape censures which should be directed rather against conditions of administration for which they are not responsible than against the actual work they do.

The Case of Harvard

One American school at least has complete freedom—that of Harvard University. There a separate Faculty of Architecture exists, possessing a splendid building of its own, an extensive staff and a unique equipment, and enjoying full independence to teach architecture as it should be taught. That is the true solution of the problem, and the one which we should be more easily enabled to follow in this country than they are at liberty to do in America. For we have not made the initial mistake of tying up all our academic schools of architecture with Science or Engineering Faculties. With us they are commonly incorporated in Faculties of Arts, and are therefore in the first instance established in a congenial atmosphere, in which their growth is sympathetically encouraged. Whilst those included within scientific Faculties exist also on a basis of equality with the other Departments of such bodies, the constitution and administration of British Universities being informed with another spirit than that which too often dominates American institutions. All academic schools have, of course, the advantage of being able to call upon the teaching and technical equipment of other Faculties as they require them. So placed, University Schools of Architecture in Great Britain may readily develop into Faculties of Architecture; and one provincial school is already within measurable distance of doing so. As such, they would in time be endowed with resources, buildings, and apparatus comparable to those of other Faculties. Each separate Faculty of Architecture would have its own administrative system, its own group of professors and lecturers, founding and carrying on not the personal doctrine of an individual—the occasional weakness of a school directed by a single professor—but a great collective traditi There would be research professorships devoted to experimental investigation of materials, extending range of technical knowledge and publishing the resu of new discoveries. In short, the Faculties of Archit ture would perform those educative and professio services which the Medical Faculties render in anot sphere; and they would do so under the same conditi of freedom and with the same authority.

Alternatives to Reform.

Two alternatives to the programme of reform h outlined may conceivably be put forward. One already received public expression; the other has so only been tentatively advanced in private discuss The first alternative is no more than the old Whig pol of leaving everything to muddle along as it is in name of tolerance and liberty. The spirit of democr is invoked to obscure actual standards of value, and create a prejudice against the establishment of ar tectural education on the highest plane. We are t that, as the part-time surveying, building, and so-cal architectural classes held in Schools of Art and P technic Institutes throughout the country are v numerous, they are to be generously accepted as sa factory instruments of professional training. To rec nise only schools of better educational status purely architectural character is merely snobbish. road cannot be made too wide, the gradient too slig no scheme can be too comprehensive or too variega Vocations the most indirectly related to architecture to be regarded as integral parts of it, and all tas good and bad, all capacities, great and small, are t welcomed within the fold.

It has not been through the adoption of such a go that any profession has ever arisen to efficiency and public respect—has ever, in fact, justified its right t called a profession. The organisation of the med profession in the middle of the last century was base the idea of quality, not quantity; and it was not sou to embrace in one amorphous body doctors, dent chemists, *masseurs*, and hospital attendants, Yet is exactly what the protagonists of "democratic" tr ing in architecture would have us do in the world of own profession. They would sacrifice directness of definition of function, standards of education, all sequent prestige and all hope of registration for ideal that can most accurately be described as ch Valuers, quantity-surveyors, self-instructed amate anybody taught anywhere and anyhow, if they can certain hack examinations held in London, let t all be admitted. Let everything be kept fluid and the consistency of water and all will be well. It is last cry of the Victorians, the survivors of that cur age in which it was possible seriously to discuss question "Architecture—an Art or a Profession"? in all good faith to assume that "Art" and "Pro sion" were antithetic terms.

The other proposal, the second alternative to academic programme, is less obviously unintellig but there are fatal objections to it. Briefly outline amounts to this:—A Ministry of Fine Arts app likely to be established in the near future. Woul not therefore be possible to create a new school architecture in London, on the lines of the Ecole Beaux Arts, and under the ægis of the Ministry? if not to create a new school, to develop the lar existing non-academic school—the Architectural A ciation—under the same auspices? Such a school wo include within its organisation the ateliers affiliate the Royal Academy, and might extend its influ to the provinces by establishing branch schools in larger towns. These branches would serve to feed central institution by supplying it with their students, who could complete an advanced course London, and ultimately pass through the R Academy ateliers.

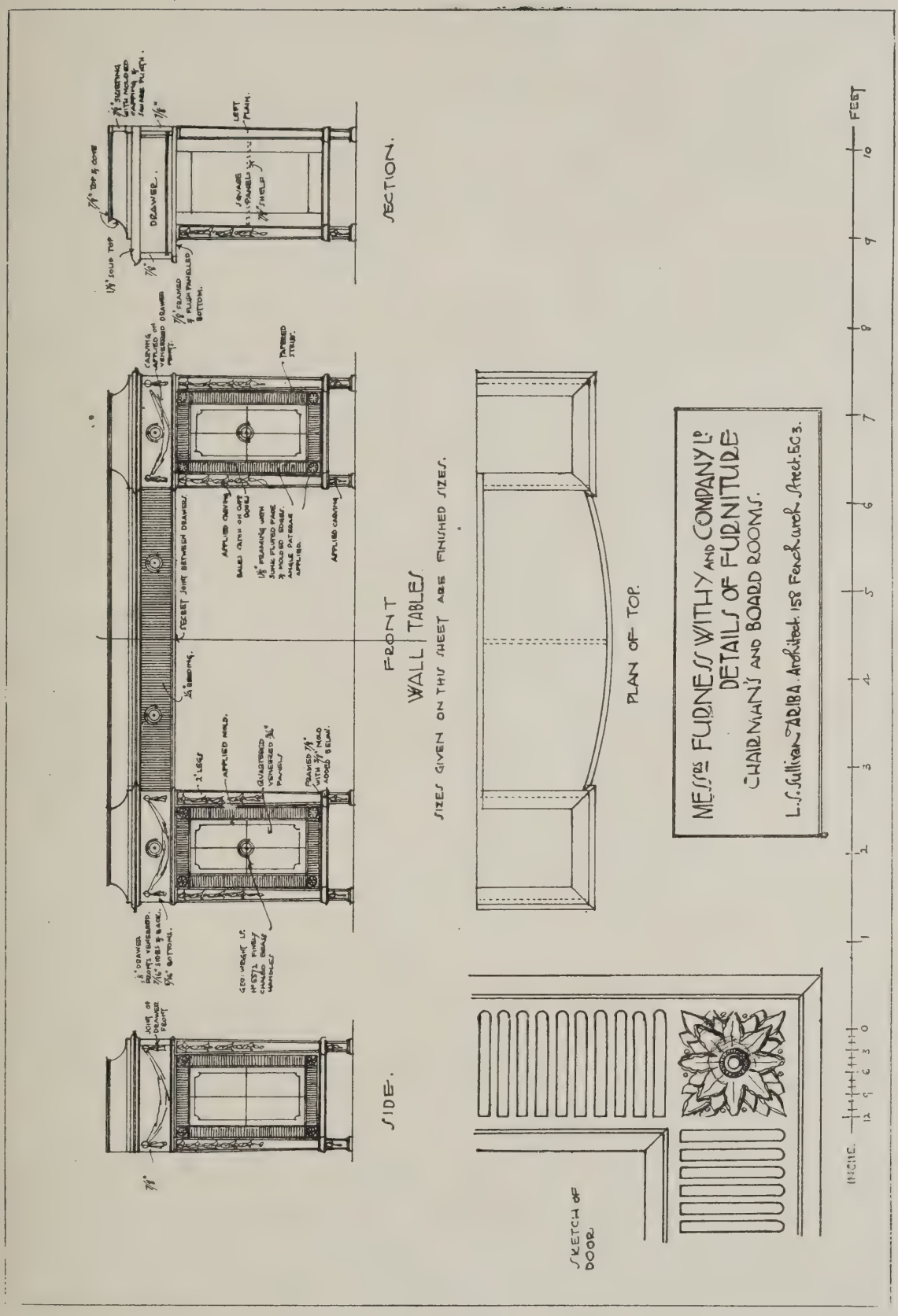
Sculpture. 1.—Central Group for a Garden Fountain

P. G. Bentham, R.B.S., Sculptor

This delightful little sculpture group has been carried out in stone, and forms the central feature of the garden fountain of a house at Hayling Island, for which Messrs. Hepworth and Wornum are the architects. About these two sturdy little figures, struggling playfully with turtle and dolphin, there is a winsome charm that is altogether captivating.

Royal Academy Exhibition.

L. S. Sullivan, A.R.I.B.A., Architect



Mr. L. S. Sullivan has designed a fine equipment of special furniture for the new offices, in Leadenhall Street, of Messrs. Furness, Withy & Co., Ltd. The example shown above is notable for its refinement of form and delicacy of detail. The whole work is in choice veneered Cuba Mahogany, with a limited amount of brass ornament.

he initial fallacy one encounters here is the suppo-
n that it is possible to create at a stroke, either from
ing at all or out of certain existing material, a
r-school of architecture that shall be in England
counterpart of that of the Ecole des Beaux Arts in
nce.

Unique Position of the Beaux Arts

hat the advocates of this project appear to forget is,
the unique historical position of the Beaux Arts,
nd the profound difference between French and
lish educational conditions. The Beaux Arts School
ally dates from 1671. It is the direct lineal
endant of Colbert's Academy of Architecture; for,
s re-creation in 1795 as a branch of the *Institut*
onal, after the Revolution, the mantle of
cademie Royal d'Architecture again descended
it. Rich in the heritage of a great tradition, the
ority of the Beaux Arts is universally accepted;
through its connection with the *Institut*, it has
ired the status of a University of Fine Arts. It
ld be obvious that to attempt to reproduce anything
such a school in, so to speak, a vacuum is to attempt
mpossible. Nor can the Architectural Association
ol provide the requisite nucleus. Of late years, as
yone must gladly acknowledge, it has developed
iantly, but its history is too recent by some cen-
s, and it lacks the one indispensable asset—
emic rank—which in England could alone com-
ate for that defect. Even if the name of the Royal
demy were by some arrangement associated with the
me, to give to it an added dignity, the result would
ittle if any better. For though the Academy has
ded in the past, and does include to-day, architects
istinction amongst its members, its teaching record
r as architecture is concerned is negligible, and its
tation is, in too exclusive and too compromising a
e, that of a society of painters. In the future, if
itectural training be developed on academic lines,
new ateliers federated under the Royal Academy
be expected to acquire reputations as post-graduate
ols; but in that capacity their authority will owe
to the Universities than to the Academy.

The A.A. School

he Architectural Association School should be recog-
d as a most valuable teaching institution in any
onable bill for architectural education and registra-
Whether that School sought academic rank through
ation with London University or not, its import-
, and the value of its work necessitate that it should
ecognised, and, assuming it did not desire affilia-
that it should have a status analogous to that of
Medical Corporations in the First Medical Act. But
een such a status and the position of supreme
ish school, there is the difference between the
tical and expedient and the impracticable and
pedient.

he second point ignored by the enthusiasts for a
don Beaux Arts, namely that the conditions of
er education in England are not those which obtain
rance, need hardly be laboured at length. It is true
in many economic and adminstrative matters, we
r from over-centralisation in London; but in nearly
branches of professional education our Universities
effectively counteracted that tendency. A similar
ess may ultimately occur in France; the indications,
ever, are not yet obtrusively apparent—in architec-
education not at all. Paris is still permitted to
France dry. Ability, which, were the means avail-
, might be developed and find opportunities for
loyment in the provinces, is automatically attracted
aris, and there in frantic competition is largely
ced to sterility and impotence. The Beaux Arts
erally the only school of architecture which counts
rance. It is the Mecca of every provincial student,
the absorbent which drains every provincial school of its vitality. The Parisian *école* skims the cream from the milk of French talent; as a school its reputation is so much enhanced and the architecture of Paris so much benefited. But at a ruinous cost to the rest of France; for the milk runs to waste in the gutters of the capital; and the provinces get no more of the cream than may be represented by an occasional *hôtel de ville* or a railway station that has been designed in a Paris studio. The registration of the architectural profession is not yet even considered practical politics in France. No qualification could be accepted for the purposes of registration except that of the Beaux Arts: and no centrally conducted tests could ever be devised to meet the minimum educational requirements of a Registration Act that would confer any real benefits on the profession.

A National System Required

Such is the penalty of a system of education that has merely a metropolitan instead of a national basis. Again to employ the medical analogy by way of contrast. In the United Kingdom the Faculties of Medicine in Edinburgh, Dublin, Glasgow, Liverpool, Manchester, and elsewhere rank on equal terms with the London Faculty. The advantages are manifest. Every provincial city possesses its own distinguished specialists; its local resident practitioners are not inferior in training to those working in London; and the whole medical service throughout the country is equally efficient. Precisely the same results can be achieved in architecture by the same method of educational devolution. The established Universities are the instruments to use; for their individual and collective authority can give to architectural education the prestige which no centralised non-academic school could ever offer even though, to the great hurt of the profession, it were fed by innumerable local branches.

We would conclude as we began, by urging that the First Medical Act be adopted as the model for the statutory measure indispensable to the welfare and advancement of our own profession. If that course be taken it will be necessary, in view of the indissolubility of the questions of education and registration, that a proportion of the members of the Committee on Registration be chosen as educational experts, and that an Auxiliary Committee of educationists representing the Universities and the recognised schools be set up for consultative purposes to assist the deliberations of the Registration Committee.

Prompt Action Necessary.

The bill should, of course, be a compulsory measure introduced by a Government Ministry. Its preamble should define and delimit the sphere of the architect, and should make clear that the first object of the proposed Act is to protect the interests of the public—the medical precedent being in this latter respect again followed. Provision should be made under the bill for Branch Councils either on a national or, perhaps more suitably, on a regional basis, so as to overcome the congestion of administrative business that would otherwise occur if all professional questions had to be referred to the General Council. Finally, the measure should be drafted and presented with as little delay as possible. There is no time to wait till the profession has voluntarily educated itself. Other bodies, whose claims may infringe our own rights, are about to seek Parliamentary registration. For the sake of unanimity and immediate concerted action we must accept a present standard of qualification that may approximate to zero at its lowest point, and, for the passage of the bill, trust to the inclusion of clauses definitely guaranteeing the future education of the profession. Upon the nature of those clauses—the standards which they set up and the conditions they prescribe—our success will depend.

E

Architectural Causerie: On Criticism

IT is indicative of the spirit of the day that the works of architects are being subjected to a curtain fire of criticism pending an attack in mass formation by the laymen. Those responsible for the defence of the strongholds of art have already issued orders for a counter-attack. It is to be a fight to a finish between the professional arbiter of taste and the critic who is determined to reveal the seamy side of things. It is interesting to watch the beginning of the conflict. There is a touch of comedy in the preliminary skirmishing, but the coming battle will have its tragic aspects, for without doubt many reputations will go down.

* * *

The function of the architectural critic is to keep artists alive, and to inspire them with an acute sense of their responsibility to the public. Not in the matter of bricks, concrete, and drains—the municipal authorities attend to the mundane side—but to act in the capacity of provost-marshal regarding deportment in the public streets. As a leading newspaper remarks, the art critics are not municipal inspectors, nor squires attendant on the authentic knighthood of art. So far as they are any good, they are artists themselves.

* * *

Owing to the peculiar constitution of the architectural body, etiquette does not permit either criticism or constructive advice on the part of individual architects concerning works of public interest. As a result, the professional papers are deemed to be apathetic, and it is left to the public Press and the scathing pen of the critic who has nothing to lose, to ventilate grievances borne in silence by the majority of architects who hold the interests of their profession dear. Consequently, a situation of extreme difficulty has arisen—one, moreover, demanding the immediate attention of the President of the Royal Institute of British Architects and the united efforts of the Art Committee. In a word, the critic, speaking for the public, demands from architects a declaration of policy. He will not be fobbed off with mere verbosity, neither will he accept the statement that architects consist of sheep and goats, with a sprinkling of foxes. Architecture is either a highly scientific art, and to be practised as such, or it is merely a commercial venture, devoid of soul; in which latter case England is indeed in a very bad way.

* * *

Since the beginning of the last century, this country, in common with other countries, passed through many diseases brought about by the sudden and rapid development of industry on an unprecedented scale, the rise of democracy, the lust for excitement, and the craze for experiment. Sir Reginald Blomfield has, it is announced, a new book in the press entitled "The Tangled Skein," which will, without doubt, remind us anew of much that we already know. Historical references are all very well in their way, but cannot be compared to the value of a declaration of policy. The ordinary architect, in London or the provinces, takes his cue from Olympus. To him it is the centre of taste. Small wonder, then, that he is content to pursue his journeyman existence in accordance with the doctrines from on high. He accepts the currency at its face value, having neither time, inclination, nor wit to test it. As a result, the critic encounters a dead level of mediocrity in the aspect of the streets, a measure of frightfulness that would be ludicrous were it not tragic. How is it the critic never levels his gibes at the country-house? The answer is because it is embossed in a natural setting, and he rarely sees it save as a water-colour drawing at the Royal Academy. The critic can, and does, deride the architecture of the Garden City because he can visit it and subject it to ridicule. He jeers at the aspect of the n buildings in the streets of London because they a inanely putrescent. The proposal to pull down ninete City churches affords him further opportunity to deri the apathy of architects, and to dwell unpleasantly the types likely to take their place.

* * *

It is customary for architects to blame public taste, bewail the commercial instinct that renders the spol tion of the streets possible. The fault is not in the matters; it is to be found in the low level of taste, lack education in architecture, as well as an overweani desire for notoriety based upon egotistical snobber The advantages of collective effort are at a discour everywhere the cry is heard, "Let us develop indivic ality," but if the newer buildings of London town refle personality, then the criterion of individuality is doom without further excuse.

* * *

Sound architecture will not arise at the call of a criti neither is it to be supposed that either the Roy Academy, with its galaxy of talent, or the Royal Instit of British Architects, with its huge membership, w succeed in improving affairs until specific changes ha taken place, and these changes must come from withir

* * *

In the palaces of art effort is fostered and encourage diplomas are given and marks bestowed. There t matter ends. As things are at present, it is open for t public to engage whom it pleases to carry schemes ir effect. There is no guarantee that an architect of ta will be employed. In many cases no architect is engage Such is the present state of the law. The unification the professions, bringing in its train the Registration architects, cannot but produce benefits.

* * *

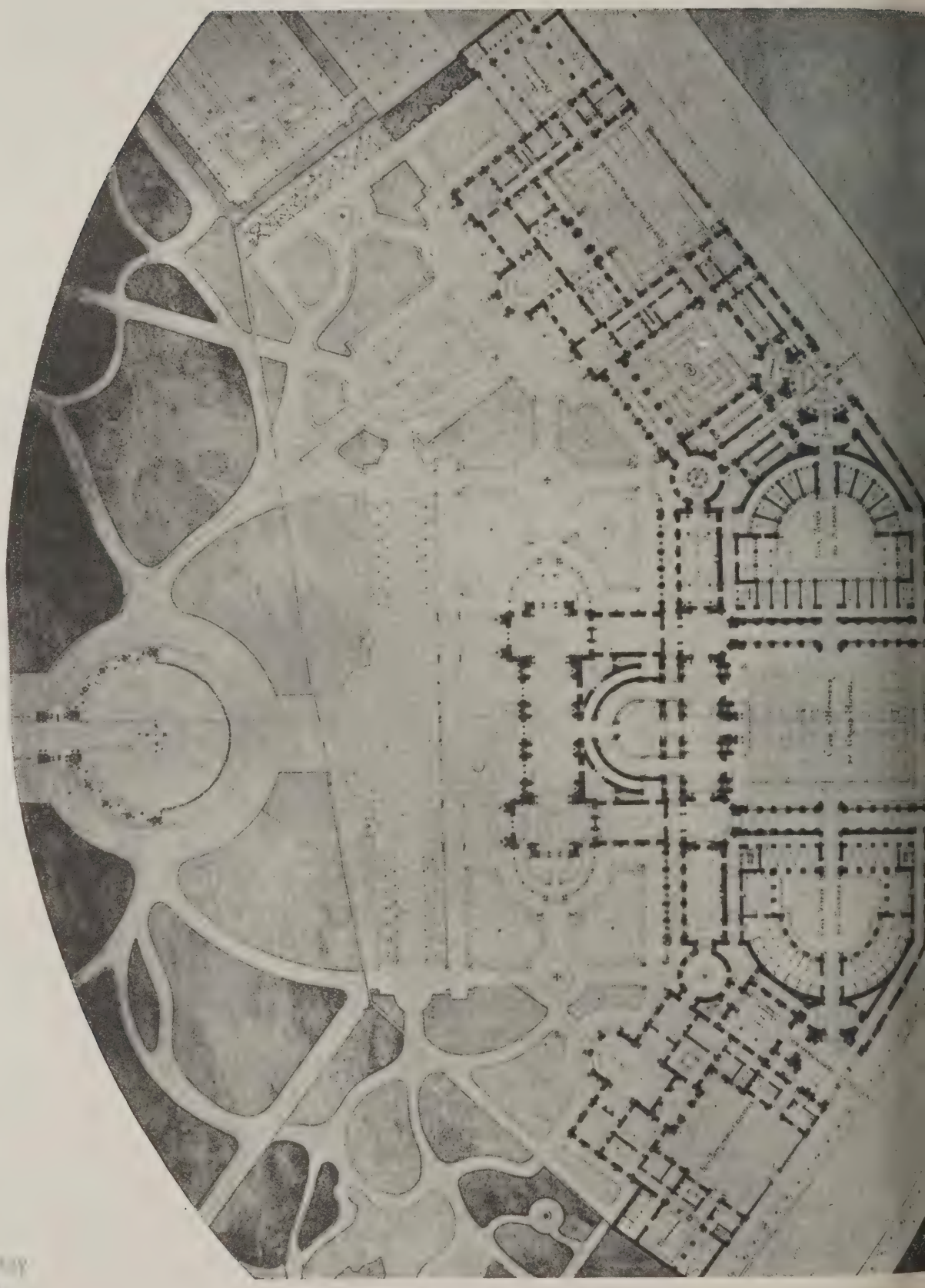
Regarding public buildings and street architecture, t position of the official architect must be recognised: w this reservation—that the official architect should empowered to call upon the Council of the Royal Instit of British Architects for advice on small matters of tas It should be made impossible for any building to be und taken until the scheme for a comprehensive treatment a whole street had received approval. We know h much was accomplished in the first half of the last centu when the Committee of Taste directed affairs; surely should be possible in these days to improve on th system. As affairs are at present constituted, the Roy Institute and the Royal Academy are too political in th relationship; we have the Lords and the Commons, a this, viewed dispassionately, is not good for the bet interests of the profession.

* * *

Unless action is taken by those who influence prof sional opinion, and that right speedily, we are likely see a continuance of the existing chaos. We raise a sto of words about the towers of the threatened churches, allow Nash's Quadant to be pickaxed under our ey The official mind once committed to a mistake sees alternative; it could not brook the idea of pulling do the Regent Street front of the Piccadilly Hotel a redesigning the Quadrant anew as a comprehens entity. No. it had recourse to compromise. The Cro authorities, with Tallis before them, did not take trouble to analyse the arrangement and relationship Nash's buildings throughout the length of Regent Stre but with the intelligence of the ostrich made sunc pecks at the problem. Truly, Conduit Street ne waking up!

AERO.

Architectural Designs. 5.—Pascal's Grand Prix Design for a "Bank and Hotel for a Rich Banker."



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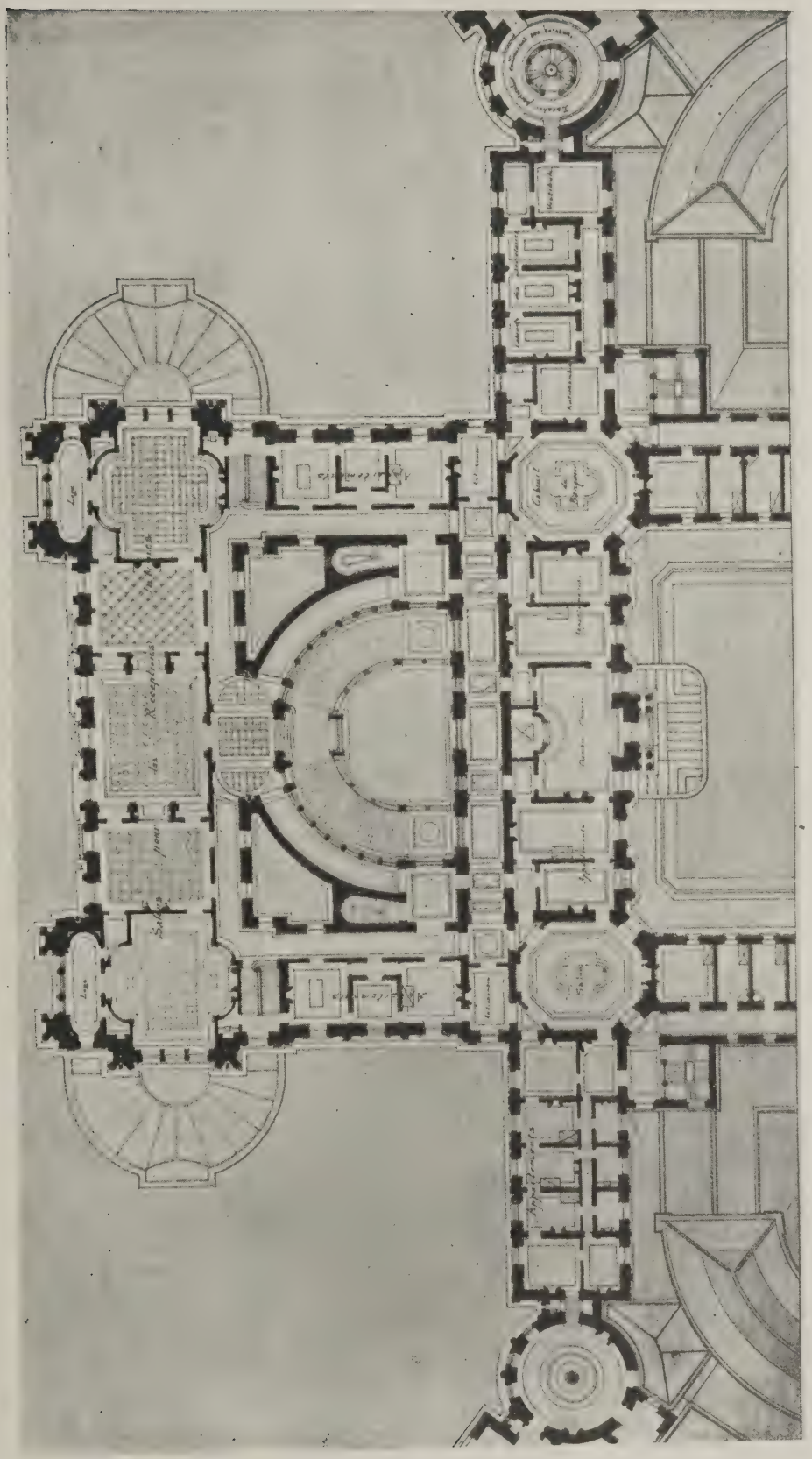
GENERAL PLAN OF GROUND FLOOR.



DETAIL AT FIRST-FLOOR LEVEL.

Pascal gained the Grand Prix in 1866 with the most remarkable artistic composition that has yet been produced in all the great competitions for this prize. Two of his principal drawings are reproduced above. In all previous competitions the site had been such as to allow of an ideal composition on a simple symmetrical plan; but the programme for 1866 gave an irregular site with conditions such as are met with in actual practice. Pascal produced an entirely new type of design, in which almost every difficulty encountered in complicated planning is handled with consummate mastery.

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Jean-Louis Pascal: An Appreciation

is with deep regret that we record the death, at the advanced age of eighty-three, of M. Jean-Louis al, Membre de l'Institut de France, taire de la Société des Artistes Fran- Commandeur de la Legion d'Hon-, and British Royal Gold Medallist). M. Pascal was widely known and red in this country, partly because of ntroduction to the profession by the Phené Spiers, who was his intimate d, and partly, no doubt, because he e English fluently; but mainly be- of the rare excellence of his work, h had won the whole-hearted appre- on of British architects.

is an essential characteristic of every r of men to possess a personality h inspires and retains the confidence ose who come under his influence. personality, expressing as it does a liar combination of the best elements aracter, added to the ordinary skilful rmance of his duties, is often all that cessary to a considerable measure of ess in many an undertaking; but to n great success and retain it over a d of many years in certain profes-, especially in such as teaching art—hich the most important part is the inable—requires not only confidence e man and his opinions, but that he possess that rare charm which wins tion and gains the affection of his fol-s. Especially is this true when that rship in his profession is recognised nly by virtue of his accomplished s but by what is practically a kind of t—by the number and successes of men who seek and profit by his in-tion—his pupils—or who desire his ment upon their works, who elect him e or juror to decide between them in petitions and for honours at the exhi-ns; and it is in this way that leader-among architects is recognised by our ères in France. Pascal was such a

Early Years

an-Louis Pascal was born in Paris on 4, 1837, and at about the age of six-years became a pupil of Gilbert, and ed the Ecole des Beaux-Arts a year . He almost immediately distin-ned himself as an artist by winning second and, the following year, the prix Rougeoin—the latter design still g regarded as one of the most bril-decorative essays the prize has drawn . He gained the prix Abel Blouet, many other student honours, includ-he Grande médaille d'émulation and ix Departmental, and at the age of ty-two years won for the first (1859) the second Grand Prix de e. This was the year that Boitte ed the premier prix, and the first of ries of competitions for this coveted , when the logists, for a period of t or nine years, were all artists of more the ordinary calibre of these con-ents, nearly all having subsequently ed the Grand Prix and eminence in profession. The list of "Grand Prix" ides Boitte 1859, Moyaux 1861, Chab-1862, Guadet 1864, Pascal 1866, and ard 1867. Among these Pascal became inent for several reasons; he gained ge seven times, and second Grand Prix e (a unique distinction), and finally Grand Prix itself, with the most remarkable artistic composition that has yet been produced in all the great competitions for this prize.

A Great Grand Prix

In all previous competitions the condition of site had been such as to allow a simple symmetrical plan, and absolute symmetry had been a *sine qua non*. It was upon designs for absolutely impossible buildings for France at that time, or even for the United States at the present, that the great abilities of Garnier, Ginain, Bonnet, Vaudremer, Moyaux, and Guadet, had been made apparent. Each had produced a brilliant classical composition, and it seemed as though the last word in such design had been given in Moyaux' masterly plan for an "Etablissment de Bains dans une ville d'eaux thermales," which won the grande timbale in '61. But the programme of the year 1866 gave an irregular site with conditions such as are met in actual practice, and for which the classical monuments of neither Greece nor Rome afford much inspiration. The building, too, was within the bounds of possibility, not to say probability. The solution demanded above all things invention, and put it to the logists to prove that they could produce a modern group of buildings fit to rank with the great classical works. The result produced an entirely new type of design, in which almost every difficulty met with in complicated planning is found handled with a mastery rarely achieved save in the later works of those architects of bygone days, who we call the "great masters."

One can with difficulty give an idea of the labour and energy which must be deployed to gain a loge seven times, and triumph over the numerous competitors who present themselves for these examinations. The diversity of the programmes requires an uncommon subtlety of talent, and innumerable resources of imagination. The Grand Prix de Rome is, as everyone knows, the highest "recompense" awarded to architects, as it is also to painters, sculptors, engravers, and musicians—by the French Government.

The same year he obtained at the Salon of 1866 a medal for a study for a Legislative Building in Holland. During the five previous years he had worked as the trusted and intelligent collaborator of Charles Garnier upon the design for the Grand Opera, and his name is inseparable from that of the great designer of the Academie Nationale de Musique. One sees in his Grand Prix design that he knew how to bring forward in his student work the knowledge gained in practical experience. And the fact of continuing to enter the competitions at the Ecole after commencing upon actual architecture is enough to prove an extraordinary capacity for work; but this is further demonstrated by the beautiful sets of drawings of restorations of antique monuments which he sent back to Paris every year during his stay in Italy and Greece, which obtained the highest commendations of the Academie des Beaux-Arts. At Rome he designed the monument erected there, in the French Church of St. Louis, in memory of Colonel d'Argy.

State Appointments

After the war he became Auditor to the "Conseil Général des Bâtiments Civils," and was then chosen by Lefuel to become Inspector of Works upon the completion of the Louvre, where he remained thus occupied for several years.

In 1872 he designed the exquisite monument to Henri Règnault, in collaboration with Coquart, Chapu, and Degeorges (sculptors), which stands under the arcade in the Cour de Murier of the Ecole des Beaux-Arts. The same year he submitted a design, which was premiated in competition for the Hotel de Ville, Paris, and the following year won a medal at the Vienna Exposition. He also received the Lheureux prize, given by the City of Paris.

In 1874 he entered a design which was awarded a prize in the competition for the Church of the Sacré-Cœur, at Montmartre, and succeeded his former master, Questel, as Chief of the Atelier, since known by his name, but which is in full: Atelier Blouet-Gilbert-Questel-Pascal. He was made the successor of Henri Labrouste as architect of the National Library (Paris) in 1875, and also Diocesan Architect of the Drôme. In his work upon the new wing of the library he proved himself worthy to succeed Labrouste, especially in his reconstruction of the façade in the Rue Colbert, than which there is no work in modern Paris more charmingly designed or more delicately detailed.

He won in competition in 1876 the Faculté mixte de Médicine et de Pharmacie at Bordeaux, an important work which occupied most of his time during the next two years.

At the Universal Exposition of 1878 he designed the Portuguese National and Colonial Palace, which scored him another success—a medal of the first class and the decoration of the Cross of Portugal.

The same year he was made a member of the Jury of the Ecole des Beaux-Arts, and in 1880 received the decoration of the Cross of Chevalier of the Légion de'Honneur.

If now we mention the Monument to Michelet in the cemetery of Père-Lachaise, designed in collaboration with Mercié (sculptor), the monuments to President Carnot, at Bordeaux, and of Victor Hugo, in collaboration with the sculptor Barrias, and of Charles Garnier at Paris, and the decoration of the Chapelle de la Rochelle, in collaboration with Bouguereau (painter), we shall have mentioned the most of his purely artistic work; always dearest to the heart of the French architect.

List of Important Works

But there is a long list of work of greater magnitude, and, aside from the artist's point of view, of greater interest—which had made up the bulk of the life's work of M. Pascal. Among these we may place in the first rank the Mairie and a group of schools at Ablon, the transformation of the old Italian theatre into a branch of the Banque de France. The town house of the painter Bouguereau at 75, rue Notre Dame-des-Champs, which was one of his earliest works, the house of the engraver Jacquet at the Isle-Adam, that of M. Renouard at Pau, the Château and dépendances de Doux near d'Aurillac, the town house of the painter Perrault at 45, Boulevard Flandrin, the transformation of a part of the Palais Royal into a town house for M. Blanchet. Also the beautiful

apartment house at 197, Boulevard Saint-Germain, and the Kœnigswarter house at 12, rue de Prony.

This incomplete list includes many of the best specimens of architecture of our epoch, but as many of them are known to everyone, it will not be necessary to dwell upon them here. Besides this private practice and the public offices filled and mentioned above, he had performed important functions as architect of the diocese of Valence, of Avignon, and the Vaucluse. In 1880 he became a member of the National Conseil Général des Batiments.

In 1887 he was made a member of the Academy, in 1889 promoted Officer of the Légion d'Honneur, and also chosen a member and reporter of the Jury of the Section of Architecture of the Universal Exposition, following which he was created an Officer of Public Instruction. In May, 1890, he was elected a Membre de l'Institut (Académie des Beaux-Arts), in succession to Jules André, and in 1903 Commander of the Legion d'Honneur. He had served as member of the jury of innumerable competitions, salons, and exhibitions, with which his lucid, concise statements, coupled with his unfailing perception and judgment, bore great weight. As Inspector-General of Civil Buildings (fourth division), M. Pascal was entrusted with the supervision and care of the following public monuments: The Observatory, the Grand Opera, the Pantheon, and the Grand Palais de Champs-Elysées at Paris; the Chateau de Pau, the Faculté de Medicine et de Pharmacie at Montpelier; the Ecole veterinaire at Toulouse, and the Institution of Deaf Mutes at Bordeaux.

L'Atelier Pascal

The life-story of every French architect, at least of those trained at the National School of Fine Arts, begins with his master's teacher and terminates—probably?—with his youngest pupil's last pupil; but for the purposes of this appreciation it will be sufficient to mention only that M. Pascal was a pupil of Gilbert, and after the death of Gilbert of Questel, who succeeded him, and that he presided over the atelier in which he studied forty-three years and more ago; and among his pupils a few of the more distinguished were Henri Paul Nénot, architect of the Sorbonne, Grand Prix de Rome, 1877; John J. Burnet, of Glasgow, architect of the extensions to the British Museum, Désiré Despradelles, twice classed first for the Grand Prix, and twice the victim of adverse circumstances, winner of first, second Prix de Rome, and of third place in the competition for the University of California, architect of the Boston General Hospital, and Professor of Architecture in the Massachusetts Institute of Technology; Charles Mewès and Arthur Davis, architects of the Ritz Hotel, "Morning Post" building, and the Automobile Club, London; Frank Simon, of Liverpool, joint architect of the Liverpool Cotton Exchange; Professor Paul Cret, University of Pennsylvania; Cassièn-Bernard, Courtois-Suffit, Recoura, Duquesne, and Debat.

Among his earlier pupils gaining one or another of the Prix de Rome are Breasson 1875, Cassien-Bernard 1876, Nenot 1877, Courtois-Suffit 1882, Quatesons 1883, Heubes 1877, Despradelles 1889, and Bossis 1890. The Prix Achille Leclere has been won by his pupils eight times since 1895, and of the Prix Chenavard, nine since that year.

His pupils came from all parts of the world, but especially from England and the United States, one great advantage to his English-speaking pupils being that he not infrequently gave them the benefit of his kindly criticism in their own tongue. To all he was affectionately known as Père Pascal—in fact, to many of the students who were never his pupils! As a striking testimony of this spirit of affectionate loyalty and friendship, his former pupils memoralised the twenty-fifth anniversary of his adoption by the atelier—for it must be remembered that the atelier chooses its own master—by having a medal struck in his honour and presented to him. Chaplain, the greatest of engravers of medals, made the design, and in it this sympathetic artist quickly caught the sentiment of the pupils; on the obverse it bears a profile portrait of M. Pascal; on the reverse there is a strong luxuriant tree, under the protecting boughs of which are springing up young shoots, which are beginning to put forth foliage.

With all his manifold activities Pascal still found time to make more than a slight reputation as a writer of magazine articles, and to become a mathematician of conspicuous ability. He was an entertaining and delightful conversationalist, and a charming and witty speaker.

Pascal as a Letter Writer

Something of the force of his logic and clarity of expression may be gleaned from the following letter written more than twenty years ago to a young American architect:

"The time has passed when contemporary civilisations ignore even their nearest neighbours. There are no materials, no inventions, no new processes of one country that are not immediately known over all the world and employed everywhere. These two factors of the renaissance in art prevent us all, you as well as us, from creating significant forms, or a so-called new style, which will not be a growth, a development; one epoch simply in the upward and continuous evolution of architecture. More and more will architecture become universal—there will be little beside the conditions of climate and material which will make diversity—unless there becomes a religious evolution, and that is hardly to be looked for in this century of tolerance.

"It is necessary to glance at your side. Having at the first step reached the culminating point of all civilisation, having had no childhood apart from ours, your composite country can offer no solutions, which are not the consequences of our past conquests, which are yours now, as well as ours.

"Certain problems, whose different terms open the possibility of new discoveries, might furnish starting-points for interesting combinations; but just as your discoveries in science, in literature, in military, and in all the branches of human attainment tend more and more to make uniform the march of progress, just as the easy communication suppresses more and more the local characteristics which constitute the physiognomy of all people, and by bringing together gives to them the atmosphere of the provinces, and to the provinces the individuality of cities and villages, so architecture from day to day will tend more towards uniformity in future solutions. This consequence, this extension of civilisation, will prove a great blow to artists. It has taken us centuries to lose our native originality, which makes the differences and peculiarities of diverse styles synonymous with differences in beauty; but it has taken us as much time to attain that proficiency, which means to a certain extent the negation of o nality, while it is the greatest securit the art of composition. . . .

"Having attained your majority at start, we can only wish reciprocally each of us may reach old age as lat possible, to uphold each other in strength of our maturity, for decrepi and death alone can produce from d and ruin that renaissance of which generations have dreamt, and which i flower of the grave.

"There is no sadness in this thou The highway is long, and, above all, broad, and we may all walk in it—prob in uniform step—at any rate, free powerful in that vast clearing which places the charming footpaths in w our fathers lingered."

Newspaper Productio Increasing Charges

In view of the suggested fur advance in wages, and the very ser situation which must arise in that ev the Weekly Newspaper and Perioc Proprietors' Association think it of g importance to set forth the present co tions governing the production of t publications.

Since 1914 the proprietors have ha meet a continued succession of incre in cost of production and distribut and since the armistice these incre have been intensified.

The conditions under which they ar present labouring include:

1. High price of paper, blocks, co butions, and illustrations.
2. Higher salaries and wages.
3. Altered conditions as to worl hours, overtime, holidays, etc.
4. Higher railway and other trans rates.

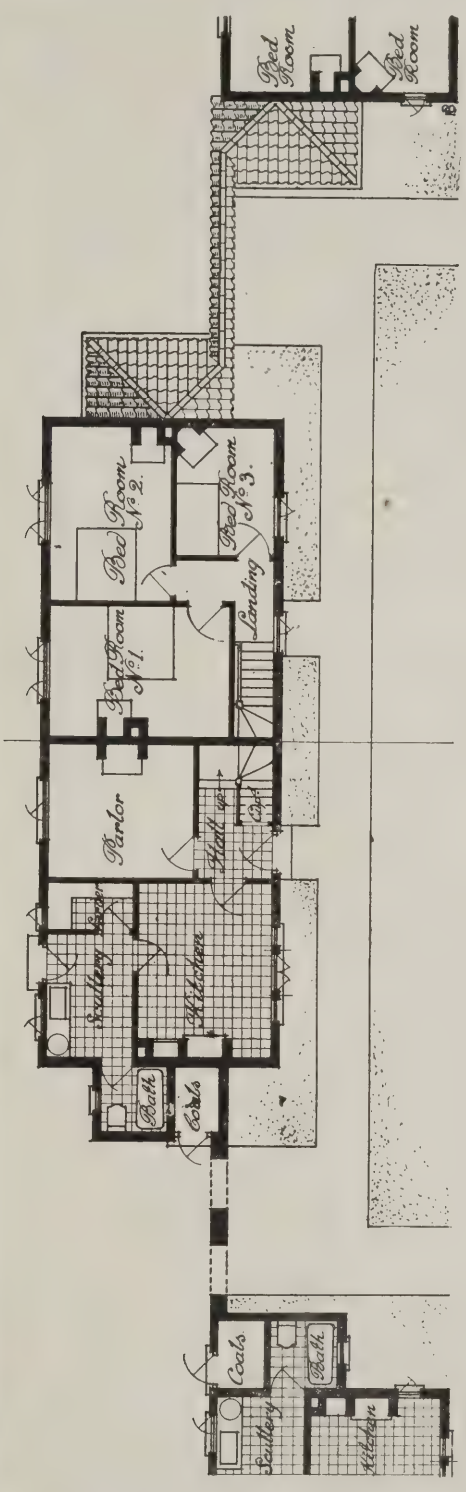
Before the war newsprint cost 1d. lb., whereas it is now 6¼d. per lb. over; and there have already been el separate advances in printing char which have thereby been increased by per cent. to 200 per cent. on prin alone. For a thirty-two-page weekly p with a circulation of 150,000 this mean increase in the cost of printing alon between £5,000 and £6,000 per annu

As regards paper, to take a specific c a publication using twenty tons of p per week was spending in the purchas paper before the war £186 per week— under £10,000 per annum. The pre cost of the supply for one week's issue a paper of the same size at 6¼d. per is £1,156, an advance of £970 per w or £50,440 per annum.

Attempts have been made to cope these increases by reducing the size publications, raising the sale price, by considerably increasing advertisen rates. These efforts have, however, quite inadequate to meet the incre charges, and the point is reached w these increases defeat their own obje Many of the publications are, in fact, running at a substantial loss.

These conditions necessarily affec very large number of the smaller firm a much greater extent than they do big corporations, and it must be real that in the aggregate these smaller fi employ far more labour than the la concerns; so that when, as is inevit if conditions do not improve, many of smaller papers drop out as their rese are exhausted, unemployment must en

W. A. Harvey, F.R.I.B.A., and H. C. Wicks, Architects.



A simple and well-arranged group of Cottages. The walls are of 5½ in. hollow concrete, with thin internal concrete partitions; the floors throughout are also of concrete, the bedroom floors being boarded. The roofs are covered with pantiles. Our reproductions are from a superbly produced brochure entitled "Plans and Photographs of 15 Cottages," recently issued by Messrs. Henry Hope & Sons, Ltd., of Birmingham, who supplied standard steel windows for the cottages illustrated.

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The Federated Builders' Code

4.—The Code in its Relation to the Architect and Quantity Surveyor

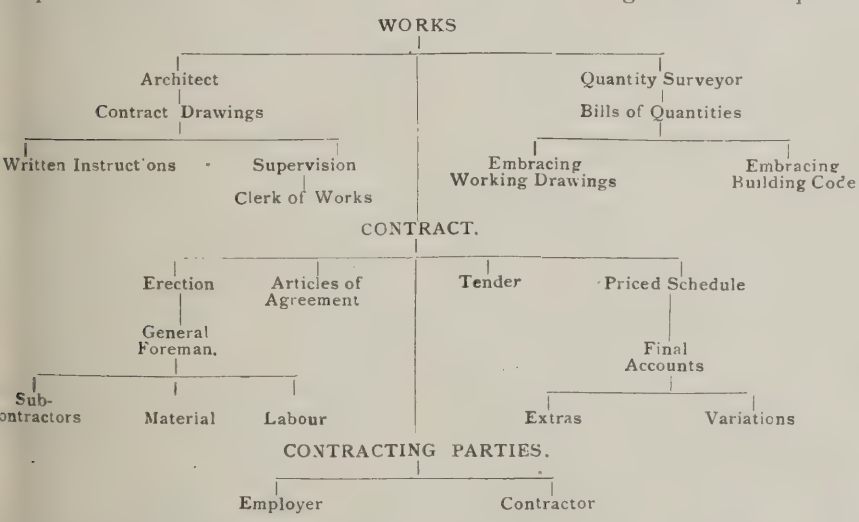
By T. SUMNER SMITH, M.Q.S.A., F.I.Ar.

(*Concluded from page* 685, *No.* 1325.)

HE Code, as may be inferred from the preceding articles in this series, does not seem to call for general slashing censure, nor for any slack ral assent either. It should be sub-d to extremely careful examination, se by clause. And it will only be competently conducted debates (in all large centres) that all the possible ings of the Code's provisions can be rstood. We can see that there must be Code or other of this sort. In the a good many things have had to be with no better security for their con-ing to perfect equity, not to mention ity, than was furnished by the in-nt human decency of those who had them; as, for example, a "give-and-" policy in the settlement of con-s. Beyond doubt, numberless mis-s, hardships, and inequalities arose. ess makeshifts and improvisations a tendency to craft and cunning in a what haphazard game of gaining a t of advantage.

it while it is necessary to formulate of the game, and to observe them, ingle section of the industry has a sole to decide the terms and provisions of Code.

e following diagram denotes the cor-ed position each party would occupy in ntract for works in accordance with Code, points out the duties each party ld perform, and indicates the channels ugh which their sphere of activities d operate most:



e Code ties down the architect and eyor to perform certain duties within mscribed limits, and also narrows n their sphere of operations. An archi-must confine himself to the architec-l side of the profession, and a quantity eyor to the quantity-surveying side of profession. It is only right and proper they should be met by such reciprocal essions from the builders as would t a conciliation and a sound working tical Code. What do they ask then turn?

) *That builders shall not contract for works of greater value than* £1,000 *as a bona-fide practising architect has engaged to prepare the plans and rintend the works.*

(2) *That builders shall not contract for any works of greater value than* £1,000 *unless the bills of quantities have been prepared by a bona-fide practising quantity surveyor.*

I feel confident that if the Federated Builders would but give these undertakings, the Code could be put in operation without drastic modification and without delay, and we could all work in peace and harmony to our mutual advantage.

But it is hopeless to expect peace and harmony so long as the Federated Builders compete with architects and quantity surveyors. This is no mere fancy. Within this last twelve months I have known of numerous cases in which builders have prepared the drawings. In two large contracts, each costing over £100,000, builders have tendered for the work without bills of quantities. Of course, it must be said in fairness to the builders that their rules state that 2½ per cent. will be charged for estimates for works over a given amount in which bills of quantities are not supplied. But this, we see, is again in competition with the quantity surveyors.

The Federated Builders cannot by any stretch of imagination consider that they are justified in demanding a warranty for the accuracy of the working drawings and the bills of quantities in those cases in which architects and quantity surveyors are engaged upon building works. On the other hand they (the builders) reserve to themselves perfect freedom to estimate on their own drawings and bills of quantities without any restrictions of any kind whatsoever, and to enter into a contract for the carrying out of building works that shall not bear the impression and stamp of the Code.

As I have said previously, if builders seek protection, then let them extend the same privilege to professional men. Federated Builders must in equity observe towards professional men the principles the Code seeks to establish.

I do not doubt that courtesy and a sense of fairness will prevent their doing any violent injustice to professional men, who, however, are not yet in a position to exert much pressure; they are not yet sufficiently united in a common bond of brotherhood. The house is divided against itself—the result mainly of snobbery and exclusiveness.

Registration of itself is not sufficient. Registration might conceivably exclude a Michael Angelo because he had not served articles with some mediocre architect, and spent the first six months of his three or four years' apprenticeship practising penmanship in copying antiquated specifications, and the next six months practising printing on drawings, and the rest of the time tracing and making drawings of "Orders," and generally pottering about.

What is sorely needed is a safeguard for all. An injury done to one—even when self-inflicted—is an injury done to all. How shall we secure all-round equity? By establishing a practising professional (trade?) union. It is out at last! Don't boggle at the word. True, the trade union is commonly supposed to be confined to the workers. But consider the dignity of labour. We are all workers in the strictest sense of the term. Even though we do copy the workers in this, it will not be the first occasion on which we have followed their lead.

And the Code, does it not stamp the professional men as mere tradesmen toned down (or toned up) a little: craftsmen set to do a specified task in a specified way: their freedom of action curtailed to this extent?

A union could accomplish much. It could right the many wrongs that are now suffered and borne because there is no compelling power or authority behind the professionals to enforce their just claims or at least to ensure that they shall be reasonably considered. Through a union, professional men could meet the Federated Builders on their own ground.

Not merely for the power alone it might wield would such a union be valuable. It might bring about a co-operation of the interests of those engaged in the building industry: in matters of research, for example, and in the pooling of experience and ideas and the establishing of standards, as was done in the engineering industry during the war, to the ultimate benefit not only of the engineers but of the entire community. Another instance of effective co-operation is that of the U.S.A. Bureau of Standards. The professional union need not interfere in any way with the present societies, whose chief function is the direction and upholding of professional qualifications—just in the same sense as the Institute of Builders is a thing apart from the National Federation of Building Trades Employers, the two being nevertheless closely associated.

A real Building Trades Parliament is urgently needed, to ventilate real grievances, to thresh out points of difference, to stimulate combined action. If such a real parliament of the industry had been in existence we could at once have nailed to the counter such flagrant misstatements as that the building industry itself is responsible for the delay in housing and for the high prices ruling. It could have tackled the "stunt" that bricklayers were only laying from two to three hundred bricks per day, by the publication of data having some

semblance of authority; whereas it is now found that in a number of cases they are laying from seven to eight hundred bricks per day on housing schemes, and on other works as many as a thousand bricks per day. That current slander should not have been left entirely to the workers to repudiate. It is a reflection on the entire industry. Moreover, in the eyes of the public, it has done incalculable harm to the profession, the profession being lamentably ignorant of the true facts of the case, and unable to give reliable information. Probably this "stunt" had ulterior motives. Great economies would have resulted had mass production been applied to housing in the first instance, and it would also have expedited the work. But mass production proper was never seriously considered, being side-tracked by the "stunts." A couple of hundred or so of well-thought-out designs would have been ample for the whole of the country, whereas there are thousands of plans, varying only in the minutest particulars, and thousands of bills of quantities, all varying more or less, and taken out in different ways. This is a waste of energy and money, and the want of organisation thus revealed defeats the object of making a science of cottage building. A good design on simple lines loses none of its virtue by being repeated ad lib.: good proportion could be obtained by grouping and arrangement. Cottage plans are required that will "box the compass," so to speak. This has been admirably illustrated by Mr. Barry Parker, F.R.I.B.A., in the bungalows he designed for the Rowntree Trust at York. The buildings all occupy the same area and are of the same cubical contents, requiring only a slight modification in the internal arrangements to make them suitable for any position.

Let me appeal to architects to accept the Code, not as slaves to the letter, but in the right spirit. Thus regarded, it can be made to stand for progress, equity, and right dealing.

Building Guild for London

The experiment recently made in Manchester in the application of Guild socialism to the local building industry is to be repeated in London. The London District Council of the National Federation of Building Trade Operatives have issued the preliminary prospectus of "The Guild of Builders (London), Ltd."

Following are extracts from the prospectus, which is headed, "An Industry Cleared for Action":—

The trade union ticket is the certificate of Guild membership. Every member of every branch of the National Federation of Building Trade Operatives and of every other approved group of building trade workers in the district is a guildsman and has a vote in the election of the Guild Committee. This, in turn, will ultimately form a part of the National Guild of Builders, a great industrial combine for the public service, with full democratic control by all the workers by hand or brain engaged in that service.

The Guild Committee will consist of representatives elected by the following trade unions or approved groups within the district: (a) The trade unions affiliated to the district section of the National Federation of Building Trade Operatives; (b) any other trade unions or groups of building trade workers within the district, whether administrative, technical, clerical, or operative, that may be approved by the committee. When there are several local committees operating in the district, each of these committees will be represented on the Guild Committee. In this way we shall secure an elected executive committee chosen by districts and by crafts.

Each of these members on election will take up a one shilling share in a society registered under the Industrial and Provident Societies Acts, 1893-1913, and entitled "The Guild of Builders (London), Ltd." He will also deposit with his electors a signed, open transfer, thus giving them power to replace him at any time. In this way the Guild Committee becomes a legal entity with power to enter into contracts, and yet the whole of its members are under the control of the industrial democracy they represent.

The first and immediate duty of the guild is to mobilise the necessary labour to build the houses so urgently needed by the nation, and to build them in the best possible manner at the lowest possible cost. The objects, as stated in the draft rules, are:

1. To carry on the industry of builders, decorators, and general contractors.

2. To undertake all branches of supply, whether as merchant, manufacturer, or transporter.

3. To carry on any other work which the society may think necessary or desirable in connection with the above objects.

From this it will be seen that the guild is designed ultimately to undertake every branch of the building industry, and to provide its customers with the services of skilled architects and engineers, to purchase and manufacture the materials, to transport them to the site, erect the buildings, and even, perhaps, to furnish them.

The Guild Committee will be responsible for the appointment and removal of managers, and for the fixing of their salaries. It is important to notice here the difference between the guild practice and that of the self-governing workshops which have so often been set up without conspicuous success. The manager of a self-governing workshop is responsible to his own staff. The guild manager, however, is responsible, through the Guild Committee, not only to his own staff, but to the whole of the organised building trade operatives in the district. This gives him security without weakening the full democratic control by the workers.

The labour of guildsmen will no longer be regarded as a commodity like bricks or timber, to be purchased or not, as required. As soon as it can be arranged, the guildsman will be "on the strength" for life. He will draw guild pay in sickness or accident, in bad weather or in good, at work or in reserve. The minimum guild pay will always be the full standard rate as fixed for the industry as a whole, but there is no doubt that the guild will be able to increase the purchasing power of its members' pay by the scientific organisation of production.

The guild will undertake work for every type of building owner, whether public or private. It will build for agreed prices or for prime cost plus a fee. But in every contract the price or the fee must include the percentage necessary to secure during its run, to all engaged thereon, the continuous guild pay described in the last paragraph. Beyond this there will be a small percentage for the purchase of plant, for overhead charges, and, if necessary, for the hire of capital, at fixed rates, without powers of control. Surplus earnings will, under no circumstances, be distributed as dividends, but will always used for the improvement of the servi by providing for increased equipment, reserve, for technical training and search, and for the elimination of hi capital.

The guild will give no financial gu antee for the performance of its contra It pledges itself to carry out the work t it undertakes, and it supports this with roll of volunteers pledged to do the wo

Industrial Council for t Building Industry

A meeting of the Industrial Council the Building Industry was held in Grand Hotel, Glasgow, on May 20 and Mr. J. Storrs, J.P., Stalybridge, Lan presided.

A report by the Safety and Welf Committee, concerning building ope tions, was submitted.

Mr. T. Barron moved the adoption the report, with draft regulations reco mended by the Commitee, and this w agreed to.

The members of the Council were at t City Chambers in the evening of the 20 and were accorded a municipal recepti

At the resumed conference on Frid consideration was given to a scheme the Resettlement Committee for the e ployment of demobilised soldiers a sailors in craftsmen trades.

Mr. Herbert Thomson, Louth, in su mitting the scheme, referred to its meri and said it was to show a little gratitu for those who had lost something by givi their services in the war.

On the motion of Mr. Bradshaw, ope tive secretary, the scheme was remitted the Resettlement Committee for furth consideration.

The report of the Resettlement Co mittee deprecated the giving of contra to two or three firms of builders, wh scores of others in the same area had opportunity of undertaking housi work.

Mr. Robert Wilson, in moving t adoption of the report, stated that t Council viewed with great concern t misleading and mischievous statemen made by Cabinet Ministers, members Parliament, and others, as to the alleg shortage of labour, and as to the attitu of the building trades towards the Gover ment housing scheme. The time had co when they should make a much strong protest than hitherto, and for that obje they asked for a direct expression opinion from the Ministry of Health. T solution of the housing problem lay at t base of all social problems, and of th higher state of civilisation for which th were striving. Unless the building indu try was consulted and its advice tak there would be chaos and disaster, a they had been impressing that upon t Government, not for the aggrandiseme of their industry, but for the welfare the people generally.

Mr. W. Moffat seconded, and the repo was adopted.

Mr. Wilson moved, and Mr. Moff seconded, that the Ministry of Health called upon to take steps to press on loc authorities the necessity for carrying o the provisions of Circular 39a, whic refers to the distribution of contract and of the General Housing Mem randum, No. 22, which deals with the se ting-up of Local Production Committe for the regulation of matters connect with the building trade. (Agreed.) Th

of that circular and memorandum brought into operation would be e local authorities and the trade exercise a better control over the n of buildings which were not of an al nature.

Thomas Foster, Chairman of the ement and Costs Committee, pre- a report which embodied numerous nendations upon the Unemploy- nsurance Bill.

Wm. Cross, Vice - Chairman, ed, and it was agreed that the re- ıd recommendations be circulated st the constituent authorities, and e report and any observation made ı be considered at the next Council g.

dispute between the master plum- ıd the operatives in Edinburgh with to the scheme for the reinstatement obilised apprentices was before the l. It was intimated that the em- were prepared to offer retrospec- ayment from November 1, 1919, s the scheme made provision for ıt from January 1, 1919.

ıtations from the parties concerned parately during the day, and on ion to the Council meeting it was ed that the parties had unani- agreed to refer the whole matter nerits to the decision of either Lord , or Lord Sands, of the Justiciary , and that they would strictly abide at decision, pending which work be resumed forthwith. This an- ment was accepted by the l.

An Innovation in Roof Construction

The marked tendency towards standardisation which is daily becoming more evident in the building industry is particularly well exemplified in the "Cradle" roof truss, an illustration of which accompanies this description of its principal features. As will be seen, it is a composite truss, in which the compression members are of timber and the tension members of steel. Although this disposition of material involves no novel principle, the methods by which the parts are jointed and assembled are in this case distinct improvements on the systems usually employed in composite roof construction. There are, for instance, no cast-iron shoes, struts, or other purpose-made connections of a complicated and expensive nature. Moreover, the tension rods, instead of passing through holes drilled in the woodwork, lie on each face of it, in pairs, with the result that the timber is not weakened by holes in its more vital parts.

A further improvement is the cradle connection, a feature which gives its name to the truss. This is made of pressed steel of semi-circular section, and its use at the ends of all timber members facilitates painting, inspection, and adjustment.

Attention may also be drawn to the fishplates half-way down the rafter, and the very direct and simple manner in which the tension rods are attached to them, by means of standard steel tubes passing through from one face to the other.

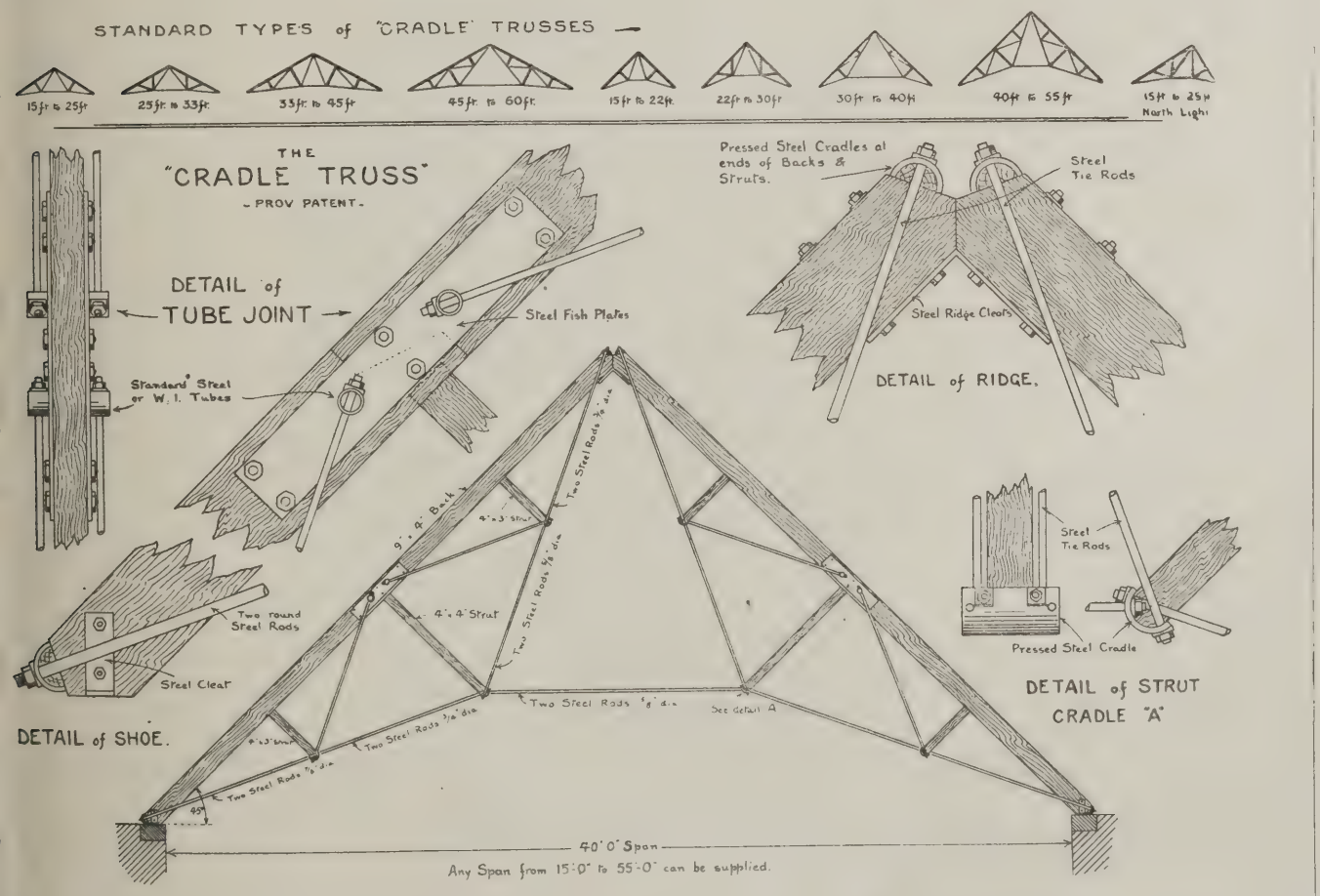
Reference to the small scale drawings at the top of the diagram will not only show the numerous standard types—of varying spans and pitches—in which the "Cradle" truss is made, but also the wide selection offered by the makers.

Probably the most conspicuous advantage possessed by this truss is the ease with which it can be taken to pieces and conveniently packed for transport. All the parts having been scientifically designed and standardised with the express purpose of promoting rapid delivery, the result is that the re-erection of the truss can be accomplished with the minimum amount of labour.

"Cradle" trusses have been calculated to provide the correct degree of strength for slate roofing when spaced ten feet apart. If, however, a lighter covering is to be used, this distance may, of course, be increased.

The makers, Messrs. James Wild and Co., engineers, of 40, Deansgate, Manchester, and 7, Wellington Street, London, W.C.2, supply the trusses complete; or, if desired, only the steelwork may be ordered, so that the builder can make his own timber parts from drawings furnished by the firm.

A truss of this kind would seem to be particularly suitable for factories, garages, farm buildings, markets, village halls, cinemas, bungalows, and rural railway stations. Reverting to the first on this list, the makers draw special attention to the north light type which they have designed.



DETAILS OF "CRADLE" ROOF TRUSS CONSTRUCTION.

Competition News

The Ideal Public-House.

Messrs. Samuel Allsopp and Sons, Ltd., invite designs in competition for a model public-house, suitable as a type to be erected in the provinces, and offer premiums of £200, £175 and £125 respectively to the authors of designs placed first, second, and third in order of merit. It is intended that the house be available for rest and refreshment, both during the hours that alcoholic drinks are on sale and also during prohibited hours. Competitors are to have as free a hand as possible in solving this new problem, but it is suggested that externally the building should be more on the lines of an eighteenth-century inn than of a nineteenth-century public-house. Great simplicity of design and lightness of construction is to be aimed at, reduction of building cost being a prime consideration.

The site is a level corner rectangular one with a 100-ft. south frontage to street and a 75-ft. west frontage to a street. A unit system of construction is desired, dividing the ground floor up into a series of bays, the internal divisions being piers and glazed screens rather than solid walls. The ground floor to be served and supervised from one central service bar, enclosed by glazed screens and sashes, so that it may be closed during prohibited hours. The service being from one central bar, each of the public rooms will be planned for seats and tables at right angles to walls or screens of different rooms, the piers supporting the first floor giving an opportunity of forming recesses in the rooms, each of which must be within view of the bar. The entrances to the house should also be in view from the bar.

The ground floor may be divided into three or four main rooms or divisions corresponding to the bar, club-room, or lounge, and one or two smoking-rooms, the latter for better-class customers; the lounge to have a full-size billiards-table. The superficial area of these rooms is to total 3,500 ft. Adjoining service bar should be a small kitchen fitted with gas-cooker, hot-plate, urns, etc. A manager's office or box not less than 30 ft. super should be provided. Stairs to cellar (600 ft. super) to be directly accessible to, but not within, the service bar. A covered way or entrance through the house to a small yard and garden at the back is required, giving access for customers desiring to buy drink for outside consumption, also separate and private access to manager's house on first floor; the manager to have access to the public-house from his quarters. Public lavatory accommodation to be provided on ground floor. This floor will be heated throughout by hot water, but one fireplace may be provided if it can be conveniently placed in connection with chimney for heating flue and manager's sitting-room and bedroom on floor above. Manager's house on upper floor must include: Kitchen, scullery, etc., sitting-room, and one bedroom (with fireplaces), three bedrooms (without fireplaces), bathroom, etc., linen-room.

Drawings: Two sheets only will be considered: (1) Showing basement, ground and first-floor plans to one-eighth-inch scale, roof plan to one-sixteenth-inch scale; (2) two elevations and two sections to one-eighth-inch scale. Designs to be sent to Messrs. Samuel Allsopp and Sons, care of Secretary, R.I.B.A., 9, Conduit Street, on or before June 30, 1920.

Congregational Church and Schools, Gerrard's Cross, Bucks.

Architects are invited to send in competitive designs for the above. Particulars, together with a site plan, may be obtained from Mr. A. E. Crook, hon. sec., "West Dene," Gerrard's Cross, Bucks. The selected competitor will be entrusted with the work, and premiums of £50 and £25 are offered for designs placed second and third respectively.

Gravesend War Memorial Competition.

The Competitions Committee of the R.I.B.A. desire to call the attention of members and licentiates to the fact that the conditions of the above competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime members and licentiates are advised to take no part in the competition.

Correspondence

Competition Conditions

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The Competitions Committee of the Royal Institute have just received the enclosed letter with reference to a competition, the conditions of which were not in accordance with the R.I.B.A. Regulations. The Committee think that your readers may be interested to see this concrete illustration of what is likely to happen when architects refuse to avail themselves of the Regulations which have been formulated for their protection.

Faithfully yours,
IAN MACALISTER,
Secretary.

[COPY.]

DEAR SIR,—Further to mine of the 26th inst., re the ——— War Memorial Competition, a local ——— company have now stepped in with a design of their own and an offer to erect a memorial to it, and this offer has been accepted. All the designs sent in to the Memorial Committee have therefore been thrown aside, and none of the competitors received any reward, which serves them right for competing under such conditions.

Faithfully yours,
———.

The Secretary, R.I.B.A.

Ex-officers Require Office Experience

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have at the Northern Polytechnic Institute about thirty ex-officers who are undergoing an architectural training. In order to give these men office experience and make them eventually valuable additions to an office staff I wish to introduce them to architects who will allow them to work in their offices on Saturdays or during the long vacation, when they could take the place of junior assistants on holiday.

Some of the leading firms of contractors are already taking the greatest interest in similar arrangements for men training as builders and surveyors, and any assistance you can give me in the matter will be greatly appreciated.

T. P. BENNETT.
Head of the School of Architecture, Building and Surveying.

Housing: A Suggesti

To the Editors of THE ARCHITE JOURNAL.

SIRS,—One of the great causes rest and dissatisfaction at the p time is the housing question, and essential that some steps should be without delay to remove it. The relu to build is quite natural when at th sent cost of labour and materials absolutely impossible to char economic rent, for there is no pros a reasonable return on capital, quently other investments are pre The Government has done somethi offering a subsidy to builders, but that has had little effect. It is imp that a further attempt should be m encourage the erection of houses. gest, therefore, that the Imperial an authorities should allow houses n ceeding a certain rental value erected from now onwards to be f all taxes and rates (excepting the rate) for a limited number of year admit that this suggestion is op criticism, but the exceptional conditi the present time are, I think, justifi for exceptional measures, and the propose has the merit of a sacrifice shared by the Imperial and local au ties. It is not, however, a sacrif present revenue, for the houses d exist, and there are compensating a tages to a district in having addition habitants, even if they do not for a contribute to the rates. In the cours few years the privilege would cease the houses become automatically ch able. By that time prices will pr be considerably lower, and condition have become generally more norm

H. W. MATTHE

Welwyn "Ideal" Vill

The site chosen for the "Daily Ideal Village is near Welwyn, Herts twenty-one miles from London. A for 999 years has been signed, and a few days foundations will be lai the ground prepared for orchards gardens. The actual village ground consist first of fifty, later, perhaps, hundred, acres of light but rich land the west side of the Great Northern way just north of Hatfield, at the ex southern end of the Welwyn Garden from which it will be separated by of fruit trees and bronze gates crossi main boulevard.

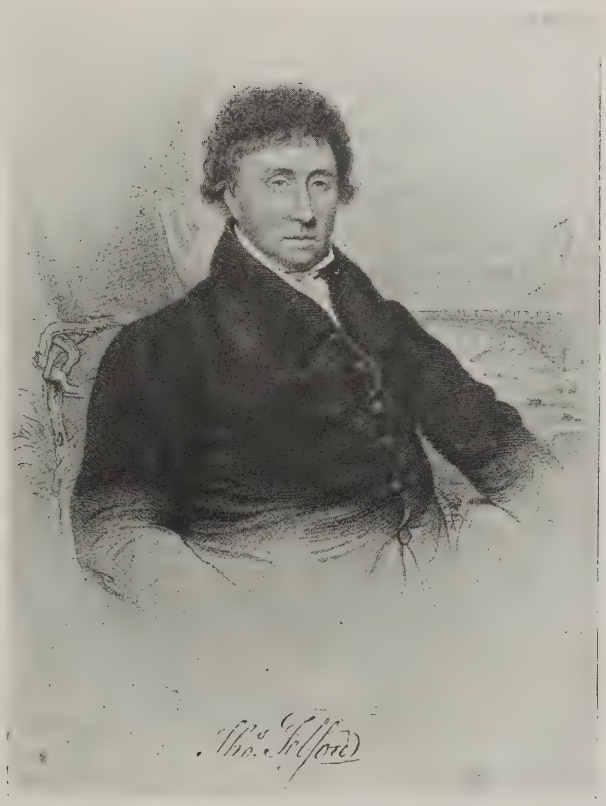
Every sort of arrangement has made to help to quicken the work of firms who wish to build houses. A railway will be laid down. Sand gravel and brick clay and wood, i ing good oak, exist on the estate an be available.

So that the work may be as artis it is quick, the plans of the builder all go before Mr. Raymond U F.R.I.B.A., who will fit each house i appropriate niche in his scheme, to all will be subordinate.. All visitor wish will be able to watch the grow the village before it is formally o as a complete exhibition. That e tion will last for two months or so, which—probably late next spring—t habitants will come into residence an village begin its proper life within circle of its communal orchards.

y, June 9, 1920 Volume LI. No. 1327

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



Born 1757, died 1834. Apprenticed to a stone-mason. Occupied much time in learning architectural drawing, and was engaged on the erection of houses in the "new" town, Edinburgh. Came to London in 1782 and found employment in the building of Somerset House. Carried out many great works of engineering, including roads, canals, bridges, and harbours. Buried in Westminster Abbey.

27-29 Tothill Street, Westminster, S.W.1.

Fountains. 1.—Fountain of the Isoletto, Florence

By Giovanni Bologna

Giovanni Bologna, sculptor and architect, was the son of a sculptor of Douai, in French Flanders. Born in 1524, in 1540 he entered the atelier of the sculptor Jacques Dubroeucq, at Antwerp. After several years in Rome he was invited, about 1553, to settle in Florence, where, among other engagements, he was employed in the decoration of the Boboli gardens. The fountain of the Isoletto is his most important work there. He died in 1608.

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ıe Significance of the Housing Movement

HERE are but few analogies of Time and Space of a nature less controversial than that which shows the distortion that is apt to thwart an attempt to obtain a proper vision, either of ; or of events, if viewed from too close a ıity—a proximity measured in the unit of time or ıppropriate to the case. And the analogy may be ed, for, just as in viewing a building, this so rable propinquity is not always to be avoided, so, becomes necessary, from time to time, to make an endeavour to estimate the degree of usefulness or :ess attained by an important event or movement, may still be in the very process of slipping from :sent into the past.

:re such conditions prevail the course most likely conducive to success is to make a comparison n the present moment, and, having regard to the lar movement whose vitality it is required to a moment just anterior to its existence, eliminat- r the nonce, the intervening period. For many ıult of pursuing such a course with the Housing ıent would be nothing less than a veritable ion, so obscured does the vision become ty incidents, paltry criticisms, and petty personal ities.

t has been during, and since, the period of the war ousing has begun to assume a new importance, the xamination must be of its pre-war state. And it is found as a matter in which but few were sted. Private enterprise, treating dwellings as ry commodities for which there was a steady d, provided a constant supply of accommodation, g rather for the middle and upper working classes or the very poor, whose greater need received but attention. The houses were, for the most part, and, in their groups, formed sorrowful blemishes he entire land; scarcely a town or village being their presence. They were, moreover, built in nd dreary rows of oppressive monotony, rows in no consideration was given to aspect, to sunshine, ıfficiency of air or ventilation, such matters being d unworthy of consideration. Any protest against ıings was but as a voice raised in the wilderness, e houses were gladly accepted by a people who, it seem, knew no better.

day the question of housing, raised from its posi- of dim obscurity, has become one of national ance; indeed, of the very first importance. There at this moment scarcely a parish in the whole of ıd and Wales that has not prepared a well-con- l statement of its needs, and the subject is intelli- discussed by those very men and women who, a ars ago, accepted ugliness, discomfort, and over- ng without bestowing a thought upon the matter. ghout the country there are committees eagerly ing the newest improvements, the latest sugges- or regulations. Never did architecture assume a mportant place in the life of a great nation. New rds have been inculcated into the minds of all, rds of beauty, of health, and of comfort.

Thus is brought about a condition of affairs that, but for this bold intervening policy of lifting the question of the supply of houses from its erstwhile obscurity into the brilliant light of national life might well have taken many years to achieve. Before the great conference of 1910 scarcely a member of the architectural profession had considered the subject of town planning, and even in 1914 it was not widely discussed; yet now it is incumbent upon every town of over a certain size to prepare a town-planning scheme. By decentralising the responsibility for the provision of houses from the central to the local government. a new communal consciousness has been awakened, which cannot but, in the fullness of time, have the most far-reaching and beneficial results, imbuing each district with a sense of local pride in its achievements and stimulating a new interest in its history and traditions. This pride is the direct outcome of the knowledge, which each district has already acquired, both that it and it alone will soon be held responsible for its own housing conditions, and that it is placed in a position of trust as never before, being able to commit the State to an expenditure of the tax-payers' money. And the sole object for which it may incur this expense is in the provision of houses.

Out of these new standards of housing will grow others affecting the furniture and equipment of the home and all the appurtenances of daily life, until it might almost seem that what has hitherto been deemed well-nigh impossible may at last be accomplished, and there may be developed an appreciation of beauty, and a realisation of its value both by the nation and by the individual; for a national appreciation of beauty cannot be aroused externally by means of lectures, classes or schools—the need for it must arise from within.

This, then, it should seem, is the real significance of the enormous movement at which we are one and all assisting. If some may be prevented by a sense of national or personal modesty from indulging in such opinions, they may turn for confirmation to the recent International Conference, when the delegates from other countries were unanimous in their expressions of admiration at the courageous and comprehensive manner in which Great Britain had handled this the greatest of the national problems which the war had created, and at the really rapid progress that had been made in so short a time.

Subjected here and there to little annoyances, irritated by the enforcement of apparently trifling economies, and, moreover, disappointed at the smallness of the number of houses so far completed, the temptation to join in the current criticism—much of which, it should be remembered, is either the result of ignorance or has a political significance—becomes very great. Yet an inability to appreciate wherein lies the greatness of a contemporary age is to admit not only a limited perspicacity but also a failure, through ignorance, or from whatever cause, in an important point of good citizenship.

H. J. B.

Notes and Comments

Sir Reginald Blomfield, D.Litt.

SIR REGINALD BLOMFIELD is getting together a very pretty collection of degrees and the like. Fore and aft of his illustrious name there is an evergrowing accretion of tags, swags, and other decorative details. Not of his own seeking, we may be sure. They are simply attracted to him by strong personal magnetism and other subtle forces. Alternatively, they are the penalties of greatness. The latest addition to them is the degree of Doctor of Letters, *honoris causa*, of Liverpool University, which was bestowed upon him in person on May 28. It is hardly necessary to say that the undergrads. of Liverpool jumped at so distinguished an occasion for a genial rag. They honoured Sir Reginald after their own fashion, singing an appropriate hymn to the tune of "Ab-ee, my boy." The gist of it was, "Reggie, Reggie, Reggie, my boy, What are they waiting for now? You slaughtered the Gothicists, Smashed the New Art. Can't you save the R.A. from the dustman's cart? . . . We want a Faculty; we'll give it tone; We want a little h—— all on our own. . . . What are they waiting for now?" It may look very foolish in cold print, but roared out lustily by fresh young voices it served well a happy occasion. The orator's speech on making the presentation was a thought more formal, but could hardly have been more welcome to Sir Reginald's ears. Not more eloquent than just, it is printed in full on a later page, as explaining quite satisfactorily why kings and Universities delight to honour Sir Reginald. All this because he is equally splendid as architect and author. Why the students sang a jovial song to him and called him "Reggie" was because they know him to be a man and a sportsman.

Professor Pite's Plaint

What is wrong with the modern war memorial? In and address to students of the Architectural Association School, Professor Pite asked, "Why did we design in an antique style in order to honour the men who had died in the war? Why impose on our own age the relics of an age that is past? But what else was there to be done? Well," he added, "he would leave it at that. It was the business of young men to discover a fitting memorial for young men. It was not yet discovered." The dreary hopelessness of meeting Professor Pite's world-weary or ancient Greek demand for something new is reflected in the comment added by his reporter in the "Architectural Association Journal": "And anyone who reflects on the numberless meaningless little crosses, obelisks, cenotaphs, already rising over the face of England, must feel the force of Professor Pite's words." We think not, for the simple reason that they have no force. Professor Pite (assuming that he is correctly reported) is asking for he knows not what, and his reporter has caught the infection. That way Cubism lies. "Oh, for any sake let us have novelty!" The reporter seems to moan, "for we are utterly tired of making bread from wheat." Professor Pite, we are very sure, did not intend to inflame the hectic desire for originality. But see the immediate effect it had on his reporter! Where the Professor was inerrant and irrefragable, as a Professor should be, was in saying that the study of architectural history should not be made from the antiquarian point of view—that is satisfaction should not be sought in the form alone without reference to the causes beneath it: a right method would provide food for the imagination without fostering revivals. But of imagination, we would remind the Professor, there is always a plentiful lack, and it is better to design "in the antique style" than to strain after new effects. Memorials to the dead, moreover, are not fit subjec light-hearted experiment. The most reverent have all been discovered ages ago, and nothing could be freshly imagined. And to attempt any s tution for them or any considerable variation of th to embark on a perilous adventure. To give th forms new adaptations is the only sound way, and we suppose, is what Professor Pite would have the y men do.

Indian Architecture

Architecture in India is just now attracting so attention that the paper read by Mr. John Begg a Royal Institute a short time ago, and now published illustrations in the current issue of the Institute Jou is a very welcome addition to the rather scanty ma for discussion of the subject. Illustrations of buil erected by Mr. Begg in Calcutta, Bombay, Benares Delhi, may be taken as showing what he has towards the development of what he aptly term "architectural policy" in India—"what ought to b guiding principle in finding the keynote of his arc tural expression, by which the suitability of the latt the soil of India is to be judged." Those build however, do not, on the whole, inspire much confi that they have struck exactly the right note. rather suggest the experimental or pioneer stag which Mr. Begg modestly confesses. "We have feeling our way," he says, "to the dim light of da Those pioneer architects, of whom Mr. Begg is n the most prominent, have met with many difficultie but little guidance, and their "problems" differ in locality. "On your dyspeptic days you are apt to Calcutta's architecture dull and smug, Bom bumptious, even riotous. In your more genial mo you might apply the adjective 'sane' to Calcutta, a Bombay 'vital.'" There seems some danger halting the bumptious, or the sane and the vital pioneer architect may achieve the splendidly or wise null. Mr. Begg's buildings are not that— least their nullity (if any) does not spring from the cause. He has tried to follow the best Indian tradi and these may account for the awkwardness with he breaks his skyline, more especially in the Bo G.P.O. building, which, however, has in it many b ful figures. But, generally, it is evident that h taken his own advice to study indigenous forms expressions; and this is evidently what Sir E Lutyens has done in his designs for the new Del the pictures of it in the Royal Academy exhibition not be invested with so convincing an air of the Ea least, it looks Eastern to the Western.

The Inter-Allied Housing Congr

On the proceedings at the opening meetings, hel Thursday and Friday at the Central Hall, Westmi of the Inter-Allied Housing and Town-Planning gress, a short note appears on a later page. Saturday, June 5, the delegates went to Bristol to typical West of England housing schemes that are carried out by Bristol City Council, who are to 5,000 houses. On Sunday, at Westminster A seats were reserved for the Congress delegates. Monday Sir Frank Baines received delegates a Well Hall Estate, Woolwich, and Sir Alfred invited them to a garden party, at which they received by Dr. Addison. On Tuesday a seventy- trip by water took the delegates to various schem Greater London and the Home Counties. To-da visit is to the Birmingham district, including Bourn On Thursday morning King George will recei address from the Congress, and in the afternoo

hampton estate of the L.C.C., and afterwards npstead Garden suburb, will be visited, while all Fri- will be devoted to a visit to Letchworth. It will be, ed, a busy time. We trust, however, that very many e delegates will be able to visit our library and read- room at 27-29, Tothill Street, where they will be ially welcomed, and where they may inspect ortant works on Architecture, Housing, Town ning, and kindred subjects, as well as the best ent architectural periodicals, and where they will facilities for conducting correspondence, etc. By vay, the extraordinary enterprise of Messrs. Winget reference to this Congress is quite noteworthy, not in itself, but as an example of the energy that sh business firms are showing in the matter of icity. Messrs. Winget engaged a grand parade our-and-twenty "sandwichmen" to perambulate the incts of the Central Hall, where the inter-allied gates assembled. But the enterprise was not chiefly ifest in raising so large an army, but in the fact that nessage they carried about the Winget block system ousing was expressed in six different languages—a that expresses very strikingly the cosmopolitan and glot character of the Congress.

The Threatened City Churches

was inevitable that the threat to the City churches ld come up in Parliament. In the House of Com- s recently Sir M. Conway asked the First missioner of Works whether the more important of churches could not come under the protection of the ient Monuments Commission. He was fobbed off the coldly formal reply: "The answer is in the tive." So much the worse for the Ancient Monu- ts Act, whose deficiency renders all the more ssary the activities of the various public-spirited ons who are in various ways protesting against what d Curzon of Kedleston terms "the momentous and entable recommendations of the Bishop's Commission ne City churches." Mr. Mervyn Macartney's lantern re, delivered to the London Society, drew an attend- so unusally large as to leave no doubt of the ness and extent of the public interest in the subject. mately the result of all this righteous indignation ld be not only the salvation of the City churches, but ortant amendments that would vitalise the absurdly ectual Act or Acts for the preservation of ancient uments.

Dynamic and Static

ow Professor Lethaby must writhe! In spite of his derous denunciations of "concept," "problem," and r monstrous locations misapplied to architecture, is Professor Adshead boldly and badly saying that plans should be dynamic rather than static, and the gridiron lay-out does not conform to this golden The gridiron could be borrowed from any neigh-, but dynamic and static are the revelation of Pro- or Jay Hambridge. We wish he had patented the ntion by means of which he attaches these desolating s to so gracious a thing as Greek architecture. Mr. Trystan Edwards, who has accused Mr. Hambridge n unmathematical use of these words, has drawn Professor Hambridge the humiliating confession "not being a mathematician." he "consulted an ority on the science before adopting the words to ribe the active and passive qualities" he "found e distinguishing characteristics of two symmetry es." We fear that his knowledge of æsthetics is larly detached; also that this "eminent authority" been pulling his legs. Dr. Hambridge shall not pull , and we have the less faith in his speculations be- e of the fearsome jargon in which he has formulated n. But we are surprised at Professor Adshead's nentary lapse from his habitual use of homely and rous words.

London University Site

Delay is commonly expensive, if not in any other way dangerous. If the statement insinuated by Mr. C. Palmer between question and answer in the House of Commons the other day be true, delay in buying a site for London University is likely to cost the country some £630,000 more than it need have paid if the purchase had been made before the war. Whether the site could have been had then for no more than £367,000, as Mr. Palmer alleges, is not more certain than that the price at present in contemplation is a round million. Authority for either figure is lacking; but that the difference, whatever it is, will be enormous, there is no question whatever. The comparison would be idle if it did not illustrate so forcibly the trite moral with which this paragraph starts; and unfortunately the same process of vexatious multiplication must apply to the building also. Time after time for years before the war we urged the prudence of acquiring a site for London University, and of building on it, before rising prices made the duty more and more expensive. Not that we anticipated the war and its monstrous inflations; we were calculating on normal increments only; and with respect to the five millions to be (it is estimated) expended on the building, our main regret that this sum—an amount for which we would have cheerfully plumped ten years ago—must now realise a building much inferior to that which could have been built for it then.

For Architect and Contractor: Important Notice

How does the architect find the builder he wants? By devious ways; and it is not always the right man that he gets after all his enquiry and search. There is no simple and direct means of getting on the track of a country builder who is the right man to do the work required of him by a London architect, or by an architect who, practising in some other great town, needs to build in some district remote from his home. How is he to find out the addresses of the competent local contractors and ascertain what they can do? Certainly he can get names and addresses from a local directory, but the qualifications he must take on trust, or ascertain in a roundabout way, and then, perhaps, very vaguely, from architect friends who happen "to know a man" in the district. As often as not, rather than run the risk of getting the wrong man for the job, the town architect about to do work in the country engages a town contractor for it, and in this way local contractors lose much work and many opportunities of obtaining employment from town architects of repute—losing thus, also, invaluable chances of business expansion following hard upon enhanced reputation. In this country the builder—save in a very few instances—has not yet realised the value of publicity. Unlike his American cousin, the British building contractor does not advertise. That is why builders always head the lists of bankruptcies, and why all the important work in the country is done by a few large firms. If only the building contractor would make public what he has done, what he is prepared to do, and what are his special lines, equipment, organisation, exceptional facilities, the architect would never be "left guessing" as to where he could lay his hands on a suitable man. In order to bring architects and building contractors more closely into touch the proprietors of this Journal are preparing to offer contractors special facilities for making their qualifications known. Circulars on the subject are being printed and circulated, and within the next few weeks every building contractor in the country should receive one, but, in case of non-delivery, direct application should be made to the publishers, 27-29, Tothill Street, Westminster, S.W.1.

The Week's News

Y.M.C.A. Memorial in the Abbey

A stained-glass window to commemorate the war work of the Y.M.C.A. is to be placed over the south entrance to the nave of Westminster Abbey as a memorial.

Fall of Brough Castle Roman Tower

The south-west corner of the main tower of Brough Castle, one of the best-known landmarks in Westmorland, has collapsed, causing a breach in the walls from 13 ft. to 18 ft. wide.

Canadian Industries Exhibition

The Canadian Industries Exhibition—the first of its kind to be held in this country—was opened to the public on Monday. The exhibition owes its origin to Mr. H. Greville Montgomery, the well-known promoter of the Building Trades Exhibition at Olympia.

Huge Housing Loan for London

The London County Council have decided to issue £7,000,000 London County Five-and-Three-Quarter per Cent. Bonds, 1930, convertible into 5 per cent. London County Consolidated stock, 1940-60. Of the total it is estimated that 5½ millions will be needed for housing schemes.

Paris Town Planning Competition

The City of Paris recently offered prizes in a competition open to architects of France and of the Allied countries for plans for the improvement and extension of the city. The competition was divided into four sections: (1) For the general plan affecting Paris and its suburbs; (2) for the laying-out and improvement of Paris proper; (3) for the laying-out of the zone of the fortifications which have now been condemned as useless, and the approach and surroundings of the same; (4) reserved for careful detailed studies of the town-planning of particular areas. For each of these sections valuable prizes were offered, and the city reserved to itself the power of purchasing plans which, for one or another cause, were not included among those receiving prizes. The result of the competition has just been published. The only prize winner in the various competitions who was not of French nationality was Mr. Adrian Berrington, who, with MM. Dujarric and Chaures, gained a prize of 10,000 francs in the first section and of 4,000 francs in the second section, while in the third section the plans offered by himself and his collaborators were acquired by the city for 2,000 francs. Mr. Berrington is a former graduate of the School of Architecture of the University of Liverpool.

The Inter-Allied Housing Conference

The Inter-Allied Housing Congress opened at the Central Hall, Westminster, on Friday, last week. Dr. Addison presided over the initial ceremony. It is the first big international meeting since the war, and, with the exception of Russia and the late enemy countries, nearly every part of the world is represented by the 350 foreign delegates. They include municipal experts from all the chief cities of Allied Europe, from the Dominions, America, and Asia. At the head of the large French section is M. Jules Breton, who holds the same office as Dr. Addison, in the French Government. The note of all the speeches of the foreign visitors on Thursday was admiration for British achievement and willingness to profit by our experience. The speakers during the day included M. Sellier, of the French Association for the study and development of towns, Commendatore Comanni (Italy), the Spanish Ambassador, Mr. Veiller, of the American Housing Association, Dr. Copeland, Commissioner of Health for New York City, Mr. Larsson (Sweden), and representatives of Switzerland, Norway, Brazil, Chili, Denmark, Rumania, Gre Canada, Finland, and Poland. The formal discuss are likely to be less useful to them than the tour they making this week of the British housing schemes. Friday the speakers included Mons. Breton, Aldridge, the secretary, Viscount Astor, Parliamen Secretary to the Ministry of Health, Mr. Tho Adams, Commissioner of Conservation for the Cana Government.

London University Site

In reference to a question on the matter, Mr. Fis President of the Board of Education, in the Hous Commons last week, stated that he was not in a pos to make any statement as to the price proposed to be to the Duke of Bedford, as the purchase was not act complete. Answering a further question, he said site selected and offered to the University had chosen—first, because of its proximity to the Br Museum, the greatest depository of literary study in world; secondly, because of its proximity to Unive College; and, thirdly, because of its more central tion. The Government were not attempting to force University to accept the site. The Government off the site; the University might accept or decline it.

Sir Reginald Blomfield's New Degree

Sir Reginald Blomfield, M.A., R.A., ex-P.R.I.B has had conferred upon him by the University of L pool the degree of Doctor of Letters, honoris ca The Vice Chancellor, in presenting Sir Reginald, s "He is the accepted historian of the architecture of English Renaissance, and has been foremost in revival of that noble and native style. London, many other cities and towns, and with many a cou side, is adorned by the original work of this studer Inigo Jones and Christopher Wren, the masters w his learned and sensitive scholarship has shown in true scale, and whose shades must claim him as a wo follower. He has also recorded the beautiful patt of the English formal garden; and on the architectu the French Renaissance he is equally an authority. cross of his designing that stands as a war memori the British dead will be the care of many generati It is well that this University, with its living Scho Architecture, which has profited by Sir Reginald B field's counsel and influence, and by his gift as organiser of teaching, should be the first to offer highest honour to this accomplished and masculine ar and that the award should be approved by the city w pride is this hall, designed by Harvey Lonsdale El

Additional Powers for Housing

We have received from the Scottish Board of He copies of the Housing (Regulation of Building) O (Scotland), 1920, and the Regulation of Buil (Appeal Procedure) Rules (Scotland), 1920, which been made under Section 5 of the Housing (Additi Powers) Act, 1919, as applied to Scotland. explained that the object of the powers containe Section 5 (1) is to enable local authorities to safegu in relation to the supply of labour and materials, the vision of dwelling accommodation for their area. T powers are conferred on the ground of the extr urgency of the provision of housing accommodation, their exercise calls for great care and discretion on part of local authorities. It is only competent to local authority to exercise their powers in cases in w the provision of dwelling accommodation is delaye likely to be delayed, and before prohibiting the c mencement of works, the local authority must sa themselves that such works are of less public import for the time being than the provision of dwelling acc modation.

Board, Rosebery Avenue, London

H. Austen Hall, F.R.I.B.A., Architect

This fine new building, lately opened, is the outcome of a limited competition held shortly before the war, in 1914. It stands on the site of the New River Offices, which were the headquarters of the first water supply for London, inaugurated in 1613. The famous Oak Room from the old premises has been very skilfully incorporated with the new building (see page 727). The incomplete appearance of the elevation on the right-hand side of our view is due to the fact that the roof has yet to be added. A plan is given on our double-page plate.

The Metropolitan Water Board's New Offices

WHEN the Metropolitan Water Board decided to erect new central offices on the site of the New River Head in Rosebery Avenue in 1914, they invited six architects to send designs. The design of Mr. Austen Hall, F.R.I.B.A., s selected. The building comprises accommodation all the departments of the Board under one roof, and upies about one acre in extent.

t was desired to preserve the old Oak Room of the w River Offices, with its beautiful carved panelling l old plaster ceiling, with the painting of King William Third. This room has been re-erected in a new ition without any damage to the old work. The ing has not been cut up in any way, and was moved one piece with the help of a crane. This work was rusted to Mr. Laurence Turner, the authority on glish plaster ceilings, and under his direction the work been most successfully carried out. Two other old ings from the original buildings have also been incorated in the new work.

There was very little else of interest in the New River ces that stood upon this site, but some fireplaces have n used again and a certain amount of old iron ings.

The circular reservoir on the site of the old cistern of New River Company was paved with York stone s, and these have been relaid in and around the build- to preserve the historical interest of the site as far as sible.

The new elevations are a modern expression of glish Renaissance architecture, the materials being brick and stone. It was necessary to observe strict nomy in the design, which is therefore somewhat ere in character.

condition of the competition was that considerable ce should be left for future extension, and this is pro-

ROSEBERY AVENUE ENTRANCE.

THE PRINCIPAL COMMITTEE ROOM.

vided for in the roof story, which is to be added to at a later date. The incomplete appearance of the building as seen from Rosebery Avenue is due to the omission of the roof.

The main entrance of the building bears the dates 1613 (the opening of the New River Head) and 1920 (the erection of the new central offices).

The entrance hall is decorated with the seals of the eight water companies of London, which are now incorporated in the Water Board.

Internally the principal feature is the large rental ledger hall, which is centrally placed to be convenient for the surrounding departments.

On the first floor over the principal entrance is the board-room, to accommodate seventy-six members, with galleries for the public and the Press. Adjoining this room are the chairman's room, committee, and waiting rooms. In the west corridor near by is the old Oak Room as reconstructed, with further committee rooms adjoining for the work of the Board.

At the top of the building is a large staff dining-room with kitchens over, and provision is made for open-air roof gardens for the use of the staff during leisure hours.

Messrs. Rice and Son, of Stockwell, were the contractors, and Mr. W. Scott acted as clerk of works.

Architectural Causerie: On Thatching

IT is the policy of the Journal to direct attention as opportunity shall allow or occasion serve to all things great and small pertaining to the practice of building. Observing that architects desire information on every-day things, it has been thought meet to pen a few notes on the delectable art of thatching or thacking, a practice that is fast receding into obscurity.

* * *

In these days of patent roofing, of corrugated iron, and other kinds of catalogue materials that are governed in cost by the uncertainty of the labour market, as well as by transport and other difficulties, considerable importance attaches to materials of local origin, which are, moreover, easily obtained. The craft and practice of thatching should not be allowed to expire. There are occasions when the use of wheaten straw, of reeds, or other vegetable product, best fits the purpose in hand; and we pause here to register our respect for the work of Mr. Ernest Newton, Sir Edwin Lutyens, Sir Robert Lorimer, Mr. E. J. May, and any other distinguished architect who has displayed knowledge of traditional methods as well as care in the selection of local materials. Although thatching is a craft of great antiquity, its application is still modern.

* * *

Of the districts where thatching may be studied, and where, indeed, the craft is still practised, Kent, Surrey, Sussex, Herts, Bucks, Beds, and Cambridgeshire are prolific in examples of many varieties. Wheaten straw and reeds can be obtained in plenty: for stacks must be covered, despite the conveniency of Dutch barns; but so clamorous is the call of the factory and so pernicious the glamour of entertainment in the provincial town, that the hardy race of thatchers is diminishing.

* * *

We English pride ourselves on detail; we have a magnificent heritage in the realm of domestic building; our civil architecture is by no means to be despised; our weakness is found in our inability to grasp the potentialities of imaginative groupings—in other words, to create conventional scenery in the grand style. The French, the German, the Dutch, the Italians, and the Spanish, all fail miserably when they attempt the mysteries of domestic building; they impart pomposity in place of simplicity to their work. Even the Americans are only just realising the value of restraint. Thatching, considered imperially, is only a minor feature in the gamut of architecture. Nevertheless, no artist can afford to neglect its study, neither can he overlook the peculiar charm of its application amidst natural scenery. There are times when an architect thinks as a Piranesi, a Pannini, or a Canaletto; at other times he approaches his picture as a Fragonnard or in the mood of honest John Constable.

The writer having had recent occasion to superintend the thatching of two ancient summerhouses, the whole mystery of the craft suggested the penning of these columns; hence the retelling of a story that is familiar to most, though not to all. If we turn to that old authority Worlidge we encounter the statement: "Thatch is a common covering in many places, yet is some to be preferred before other some. The best which I have seen is that which is call'd Helm, that is long and stiff wheat-straw (with the ears cut off), bound up in bundles unbruis'd; which, well laid, lies thin, lasts long, and is much neater than the common way."

* * *

A thatcher of my acquaintance in Bedfordshire first visited several farms, in order to procure haulm, or "helm." Then came the day when the cobbled courtyard echoed to iron-shod hoofs, and the litter of straw delighted the rooks. Having deposited his tools—the iron spikes, the comb, the needles and the knife—this descendant of a long line of "theakers" proceeded to knock the ears from the unthatched wheat and to prepare the bundles. He apparently allowed "two good load of straw for five square of thatching." A sufficiency of bundles having been prepared these were gotten into position on the cross laths, and secured to the latter with iron hooks; second layer, breaking bond with the first, being secured to the lower with wooden pegs, and so laid to complete a thickness of fifteen inches. Finally came the shaping of the straw at the eaves and to the verges of the gables, the angle being delicate in cut.

* * *

While working, the thatcher spoke of the secrets and love of his craft. For instance, how one Rubble, an old-time mason in Kent, who worked for his great-great-great-grandfather in 1735, had a special manner of thatching, so devised that no rat or mouse should come into it, but he had no special defence against the depredations of birds.

* * *

Thatch is of two kinds—one with haulm or straw that has not been threshed, but the sheaves of wheat first combed with an iron-toothed comb and cleared from short straws, the ears being then cut off; the other with straw that has not been threshed. Some idea of the materials used can be gathered from a study of the thatcher's bill: 1 square of wheat thatching, 1 lb. of rope yarn, 100 nails, 100 three-foot laths, and eight sheaves of wheat. For the second a ton of straw equals two squares. Another writer gives for each square two thirds load of straw, one bundle of laths, forty withes, a pound of rope yarn, forty thatching rods and two hundred nails.

* * *

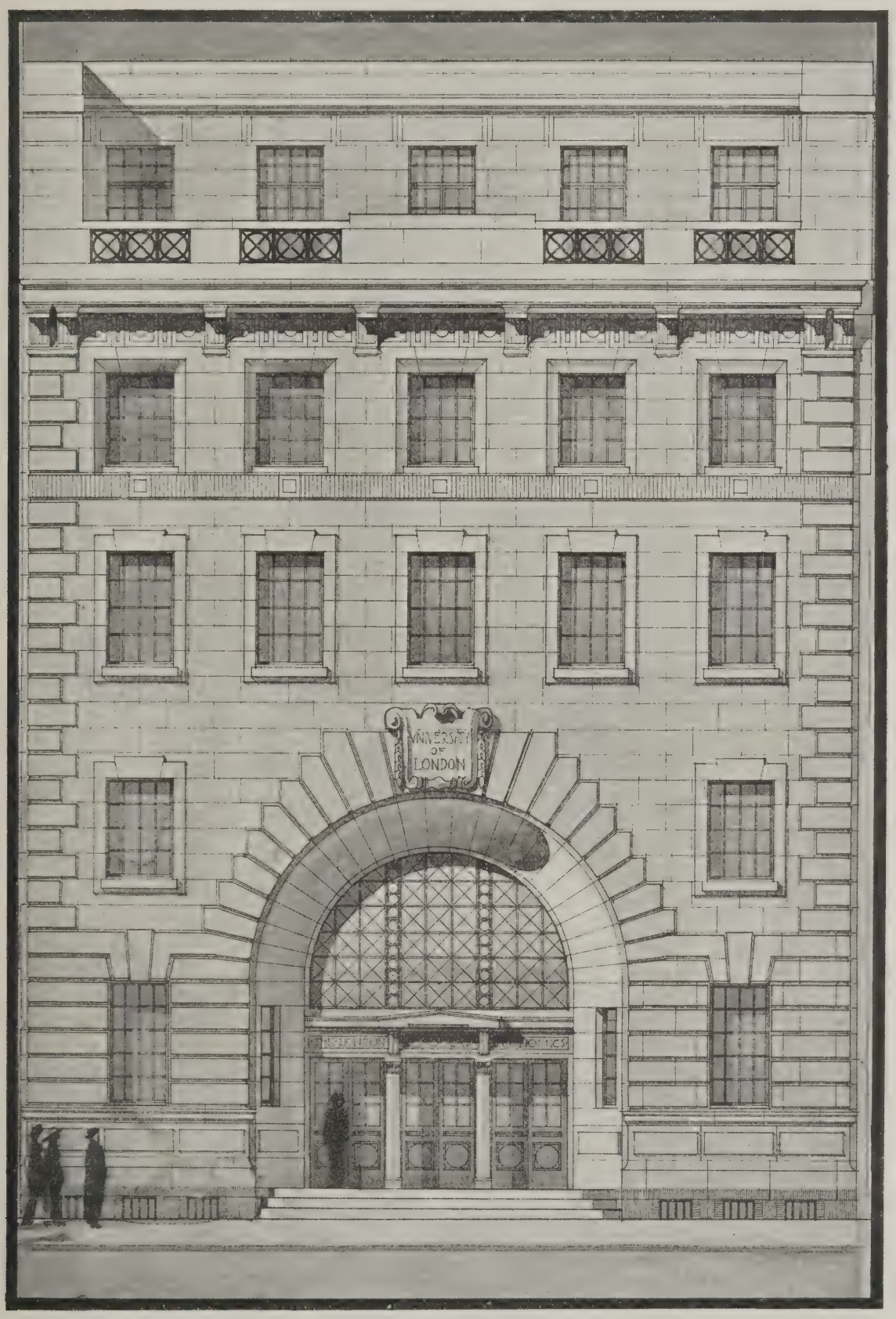
Loudon, the compiler of the "Suburban Gardener and Villa Companion," published in 1838, from which for several reasons may all good designers be preserved

English Renaissance Architecture. 27.—The Oak Room, Metropolitan Water Board's New Central Offices, Rosebery Avenue, London

This room, a particularly fine example of Wren period design and decoration, existed in the former "New River" offices of the Metropolitan Water Board. Together with its very fine plaster ceiling, it has been incorporated with the new buildings recently opened (Mr. H. Austen Hall, F.R.I.B.A., Architect). The room contains a great wealth of fine carving in the Grinling Gibbons manner—probably executed by the great craftsman himself.

rrent Architecture. 21.—New Extension of the School of Economics, Clare Market, London

Trehearne and Norman, Architects



The foundation-stone of the new extension of the School of Economics was laid by His Majesty the King on May 28. The original building was designed without any provision for future development, and consequently the architects were faced with a very difficult problem in planning, as will be seen from the plans reproduced on page 739. Further particulars of the new work are given on page 741.

ks of the "nuisances of thatched houses." In old lon, of course, before the Great Fire, thatch was iently used as a roofing material, the Londoners g constrained to whitewash the thatch. It is esting to note that the practice of whitewashing the t or straw roofing is observed even to this day in districts of Wales. Perhaps the good citizens of lon found that whitewashing the thatch rendered it iable to combustion, and experiments have shown thatch treated in this way is not only protected sparks, but is made more durable.

* * *

some parts of Scotland—Kilmarnock, for example roofs are thatched in the usual way, with this ion—lime mortar, well prepared and mixed with traw, is spread very lightly over the thatching with ecial trowel. The Scotch thatcher following this e requires two men to serve him with the straw, a to prepare the mortar, and another to carry it up. 355, Mr. Boswell read a paper before the Royal in Society advocating and describing a cheap sub- e for thatch consisting of "scraws or sods" covered a composition some 2 in. thick, which really corre- ds to the Scotch method.

* * *

a or marsh reed is deemed to be the best material atching a roof. It is said that this method is almost as good as tiling. Where pisé de terre or cob is out-of-the-way places for making farm buildings of small size, thatch is without doubt the best form of roof-covering. North, east, south, and west we encounter the pleasant thatched roofs of the old English cottages. We find them in Hampshire and Devonshire, where the cottages wear the look of ancient sheep-dogs. In the West of England, notably on Dartmoor, they formerly had an excellent method of thatching with straw. The straw is first combed clear of weeds, the ears of the corn are cut off and reed (as it is called) laid on in whole pipes, unbruised by the flail. Alas! corrugated iron has changed all this.

"Where houses be reeded (as houses have need),
Now pare off the mosses, and go beat the reed;
The juster ye drive it, the smoother and plaine,
More handsome ye make it, to shut off the raine."

Sometimes heather is used for covering roofs. This is a practice peculiarly Scotch, though not confined to Scotland.

* * *

The best thatching is found in Norfolk, where great taste is displayed in the arrangement of the eaveing. Verily the craft of thatching is one requiring study, and it is the duty of architects to consider the merits of this dying industry.

AERO.

. Victor Laloux: The Man and His Work

4.—Conclusion: National Expression by National Encouragement

By H. BARTLE COX, A.R.I.B.A., Ancien Elève, Atelier Laloux

(*Concluded from page* 640, *No.* 1,324.)

MONSIEUR LALOUX as Student attained to a thorough education upon Classic lines, enabling him as Practitioner to be recognised as a suitable Civic Decorator. As ssor he is handing on traditional wealth and oping modern tendencies.

France several styles are studied, but there is only chool of Architecture: the School of Expression by ical attainment. Any country can organise that l if the rulers are sufficiently convinced of the tance of Æsthetics.

e principles of this "school," so far as the æsthetic s concerned, do not depend upon nationality; the ool" is simply the cultivation and handing on of the l principles of beauty. If the French or any other are in the habit of expressing those principles with stricted vocabulary of "Régionalisme," it behoves other nations to give variety of vocabulary, but the essential is "Technical Power of Self-expression." Art (in itself) being neither moral nor immoral, it is the artist's "power" and not his "taste" from which the student should inspire.*

Æsthetics being somewhat of the nature of religion, they can be dispensed with for commercialism, but they become a moral necessity for all self-respecting peoples.

No age and no country is entirely indifferent to æsthetics, but some ages and some countries suffer from somnolism under the passing influence of the evolution of a branch, as distinct from the trunk, of the tree of development. The small idea of "Régionalisme" can only prosper as a poetic force in so far as it is capable

* But for Rubens, the whole French and English schools of painting had not been so effective.

RAILWAY STATION, TOURS. VICTOR LALOUX, MEMBRE DE L'INSTITUT, ARCHITECT.

ering itself as a secondary detail of the larger con ption of internationalism.

The principles of art are universal: A National School should be simply a regional expression of the international principles: that is, Classic, Influential, Immortal: in short, on the trunk.*

Influence of the Age

Each age and each professor adds something to the common stock in proportion as they work towards development as distinct from the popular superstition of originality. Personality or character, sometimes called originality, is a mere matter of taste, taste is therefore personal, but the national taste, which is the more evident the more the nation works in harmony, is formed by the taste of the majority of its arrived men.

If the age be one of "mediæval mimicry" the architect, however great may be his powers of persuasion or the value of his advice, is not likely to gain a world-wide reputation if his tendencies be classic; not only because he will find clients scarce, but because there will be a lack of training opportunities for the development of his classic expression.

Influence of the Architect

The fog-stricken area of the British Isles abounds in Greek architecture, and the sunny sky of Calcutta is pierced by the steep-pitched roofs of a Gothic cathedral, demonstrating the power of the client over that of climate. A Roman Catholic prefers the admonition of his confessor to the counsel of a Buddhist priest; and supply is usually in accordance with demand. How disastrously flattering for the profession if the architect could choose his clients!

The profession working by itself argues public indifference, and public indifference is open to the latest social fad. The quack becomes the hero of the hour, and the serious student is left in the dark.

Apart from a man's capabilities, his opportunities for education and recognition are of paramount importance to his development. When a nation knows what it requires, a "school" (not schools) is formed if great results are sought. By that means all help the common cause instead of setting up opposition and depriving one another of accumulated facilities.

* The fruit grown on the branch is not so potent as that cultivated on the trunk.

Under a despotic monarch any art can flourish if he desire it; under a democracy also, if the people feel t necessity. (There's the rub!) In both cases it effected only by an organisation for education of t national and not of the individual temper.

The individual temper, however great, stands itself and helps nobody; if it were not isolated it wou be universal, or at least national, and would contrib its share towards development.

Individual effort to get away from tradition is "devo tion"; it conceitedly despises the help of the masters all past ages, and thereby itself suffers a lack of develo ment.

What would modern "Men of War" be worth to t British Navy, if, instead of being evolved upon tra tional lines and improved upon by foreign inspirati they were designed by a number of different peop some of whom eschewed the history of naval constructi and by others who wished only to inspire from Englan

The English understand the principle just as well did the Ministers of Louis XIV. when he founded famous Academy. All they lack is the national des that their architecture should be the best in the wor If ever that dream were realised, the Eglish wou become less bourgeois, and cease to regard snug-looki cottages as the "ne plus ultra" of the art of building.

The question of material and of ornamental det being of secondary consideration, there is but one sch of classic design, not alone for Europe, but for t whole world. Some countries, however, are m advanced than others on the question of cultivating th technical men. France, with her Ecole des Beaux-Ar can certainly claim to be the country which offers the b understood conception of a classic training in Clas architectural composition.

The Americans have felt this truth, and are doing f work.

There are many "schools" worth cultivating: School of Comfort, the School of Commerce, etc.; those who are admirers of the School of Classic Des cannot fail to be interested in the life of one of Franc greatest modern exponents.

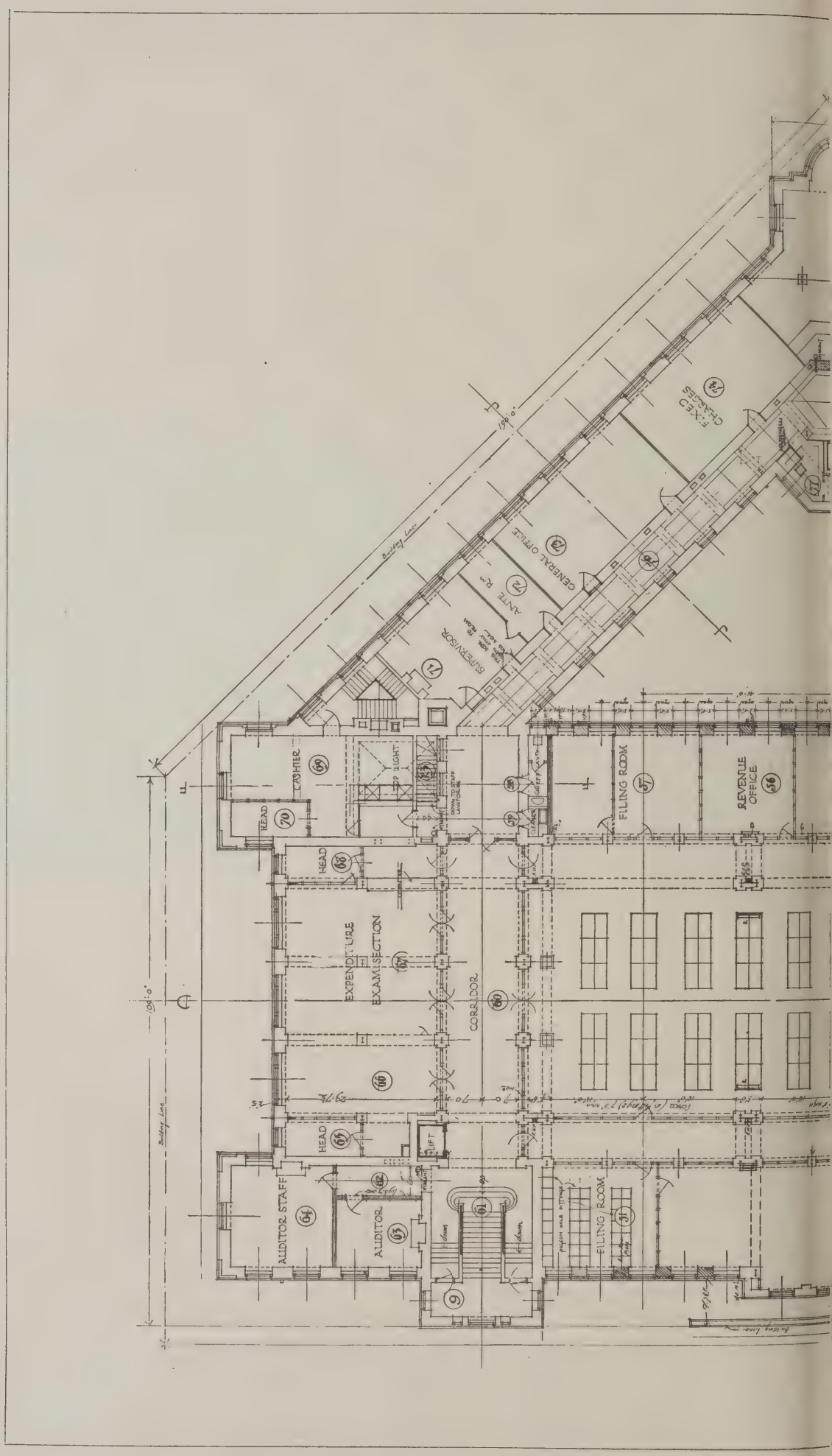
Monsieur Laloux's career is a striking example of w can be effected by State organisation for the develo ment of Classic Architecture.

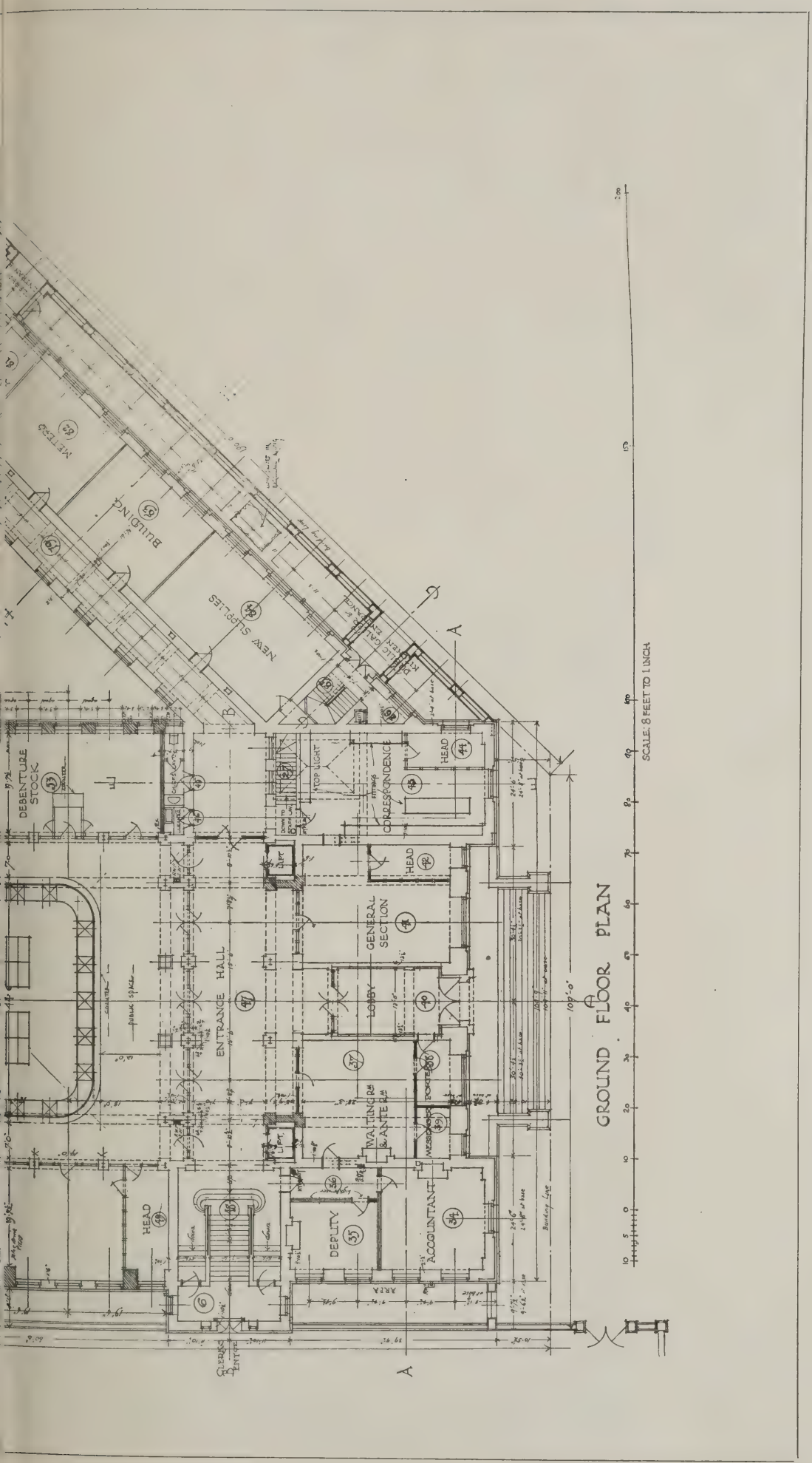
A National "School" is National "Evolution."

GRAND HALL, HOTEL-DE-VILLE, ROUBAIX. VICTOR LALOUX, MEMBRE DE L'INSTITUT, ARCHITECT.

Architects' Working Drawings. 8.—New Central Offices of the Metropolitan Water Board, Rosebery Avenue, London: Ground-floor Plan

H. Austen Hall, F.R.I.B.A., Architect





An excellent example of direct and convenient planning in relation to a site of peculiar shape. Note how awkwardly shaped rooms are avoided by the placing of the subsidiary staircases in the angles formed by the junction of the triangular with the rectangular body. The arrangement of the corridors is also to be commended.

The Threatened City Churches

Commissioners on their Defence

HE much-criticised Commissioners who have recommended the destruction of nineteen City churches an opportunity of replying last week, they were invited by the London ety to hear a paper, illustrated with rn slides, on "The Nineteen Threat- City Churches," which was read by Mervyn Macartney, F.R.I.B.A., A., surveyor of the fabric of St. Paul's edral. Sir Aston Webb presided, and ecture-room of the Royal Society of was crowded, many people interested r unable to enter.

er the paper a long discussion en- in which three members of the p of London's Commission gave a ed justification of their action in ng that body's report. A resolution passed thanking the Lord Mayor and oration for the efforts they were ng to prevent the demolition of the hes, and expressing the feeling that memorials of the past might in the be used to a much greater extent in aily religious life of the people. This resolution was carried by an overwhelming majority, although many of those present did not vote.

Mr. Macartney did not venture any opinion upon the Commission's action, but confined himself to criticism of the churches thrown upon the screen. Referring to the proposal to retain the steeples of some of them, he said that a steeple without its church lost nine-tenths of its beauty.

St. Botolph, Aldgate, he thought, was rather a gloomy sort of building, but would make a fine public library. Commenting on the high pews in some of the churches, he remarked that Wren introduced them to keep people warm during the long services which were at that date held.

Bishop G. F. Browne, a member of the Commission, said that as a former professor of art and archæology at Cambridge no one ever came to the City more adequately trained to enjoy the beauty of its churches, and nobody knew better than he the scandal of the City benefices. It was more a scandal of the City benefices than of the City churches, and in determining to clear away the one something had got to happen to the other.

ST. ANNE AND ST. AGNES.

Discussing the proposals of the report, he said that the nineteen churches, in addition to St. Paul's Cathedral, which it was proposed to leave for the needs of the City, were far more than adequate to meet the demands which were or could be made upon them. It was found that a number could be used for other purposes without any sort of desecration, and the Commission then looked for excuses for saving more, without any single thought or word of what the value of the sites might be. It was thought that St. Paul's might have St. Augustine and St. Faith as its chapter house, and as neither the Bishop of London nor the Archdeacon of London had a consistory court, and no place where the records of the court could be kept, it was thought that St. Mildred's, Bread Street, might be utilised for this purpose. And so they would see that it had really been a question, not of how many churches could be destroyed, but of how many they could save.

He did not think the Church of England could continue to hold these nineteen churches as museums. It was not the business of the Church to do this. If they were to be retained as museums, some other body must take them and pay for them. Was the Church of England to make a present to the Corporation of the City of London of £1,700,000? (A voice: "Why not?")

Bishop Browne: "Why not? Well—it is an impossibility. What right has the Church to give away that which was given to it for special purposes?"

Mr. Deputy Ellis said that not until that evening had they heard the real reason why the edifices were to be destroyed. It was the God of Mammon all over again. The City Corporation would never agree to the demolition of the churches, and if a Bill were introduced in Parliament they would "be there."

Lord Phillimore said that he had attended many of the churches, and his experiences of the Sunday services would shock them. The most attractive of the services, even with the Lord Mayor to read the lessons, did not number a congregation of more than twenty. The value those churches represented was wanted ten times over for the use of the population of Greater London.

Dr. Freshfield, president of the Church Preservation Society, said the crux of the matter was the veto of the parishioners. These churches were built by taxation in consequence of the fire, and were supported by rate in lieu of tithe. For that reason Parliament gave the citizens the right of veto in regard to proposals to pull them down. No Bill for their destruction, whether brought in by the Upper or the Lower House, would succeed.

Mr. Arthur Crow, District Surveyor for Finsbury, moved the resolution already referred to, and Major C. J. C. Pawley seconded.

The chairman pointed out that the resolution did not represent the considered opinion of the London Society, but was merely an expression by that gathering.

A. and S.A. Professional Union: First National Convention

THE first national convention of the above union was held at the Albany Temperance Hotel, Sheffield, at Whitsuntide, there being present delegates from London, Southampton, Exeter, Birmingham, Cardiff, Liverpool, Manchester, Sheffield, Leeds, Newcastle, Edinburgh, Glasgow, and Ayr.

On Saturday evening, at the King's Head Hotel, the delegates were the guests of the Sheffield Branch of the Union, when Mr. Arthur James, Lic.R.I.B.A., chairman of the branch, presided over an exhibition of interesting pewter and glassware and a simultaneous informal concert, the items being supplied by the members and delegates.

During the two following days the convention set itself to work in earnest. The chairman of the London Executive Committee, Captain R. G. Ll. Evans, M.S.A., presided in the first instance, and moved the election of Mr. A. J. Penty, Lic.R.I.B.A., as the first president of the union. He paid tribute to Mr. Penty's high qualities as architect, thinker, social reformer, and, not least, as a man and a Yorkshireman. Mr. J. B. Hector, M.S.A., London, seconded and sketched the outlines of the work the union must do under Mr. Penty's presidency. The election of Mr. Penty was hearty and unanimous, and, in thanking the delegates for the honour conferred upon him, he referred briefly to the state of the profession at the present day. He felt there was a work in the movement; he had wanted to see it come into existence all his life. He did not think there was any profession in which one had to know so much to earn so little, and we were not only worse off in regard to our earnings, but we had not the security that other employments had. The union's first work must be to build itself; on that everything depended. He looked to the assistants to save the profession and not to the principals; the former could meet on a communal basis; other interests divided the latter. There was not the enthusiasm in the profession to-day that there once was, and it no longer attracted that proportion of keen and intellectual young men which a healthy and expanding future demanded. He felt that the economy of the profession was wrong; it had become too much separated from its base, the building industry. This had led him to advocate the guild idea, now shaping in the Building Trade Parliament and the Building Guilds. Up to now the architectural profession had seemed always to be formulating a policy to bring itself into closer relation with the age, and always managed to put itself further away because it mistook what the age was.

The convention elected the following officers for the ensuing year: Vice-president, Captain R. G. Ll. Evans, M.S.A.; hon. general treasurer, R. G. Strachan, P.A.S.I.; hon. general secretary, Chas. McLachlan, A.R.I.B.A.; hon. organising secretary, C. F. Overy, M.S.A. (late of Liverpool); hon. assistant secretaries, H. Ascroft, Lic.R.I.B.A., R. J. Jones. Also the following to be members of the Central Executive Committee: H. Ascroft, Lic.R.I.B.A., T. Braddock, W. W. Davis, P.A.S.I., R. A. Duncan, J. W. M. Dudding (late of Dingwall, Scotland), R. G. Ll. Evans, M.S.A., P. W. Farmer, J. B. Hector, M.S.A., G. N. Hannan, P.A.S.I., R. J. Jones, A. W. Mather, M.S.A., H. Bryant Newbold (Weston-super-Mare), Chas. Pickford, Lic.R.I.B.A., G. S. N. Stone, P.A.S.I., R. Thorburn (late of Sheffield), and T. W. W. Thornton, any member of a provincial branch executive present in London during a Central Executive meeting to be co-opted for the occasion.

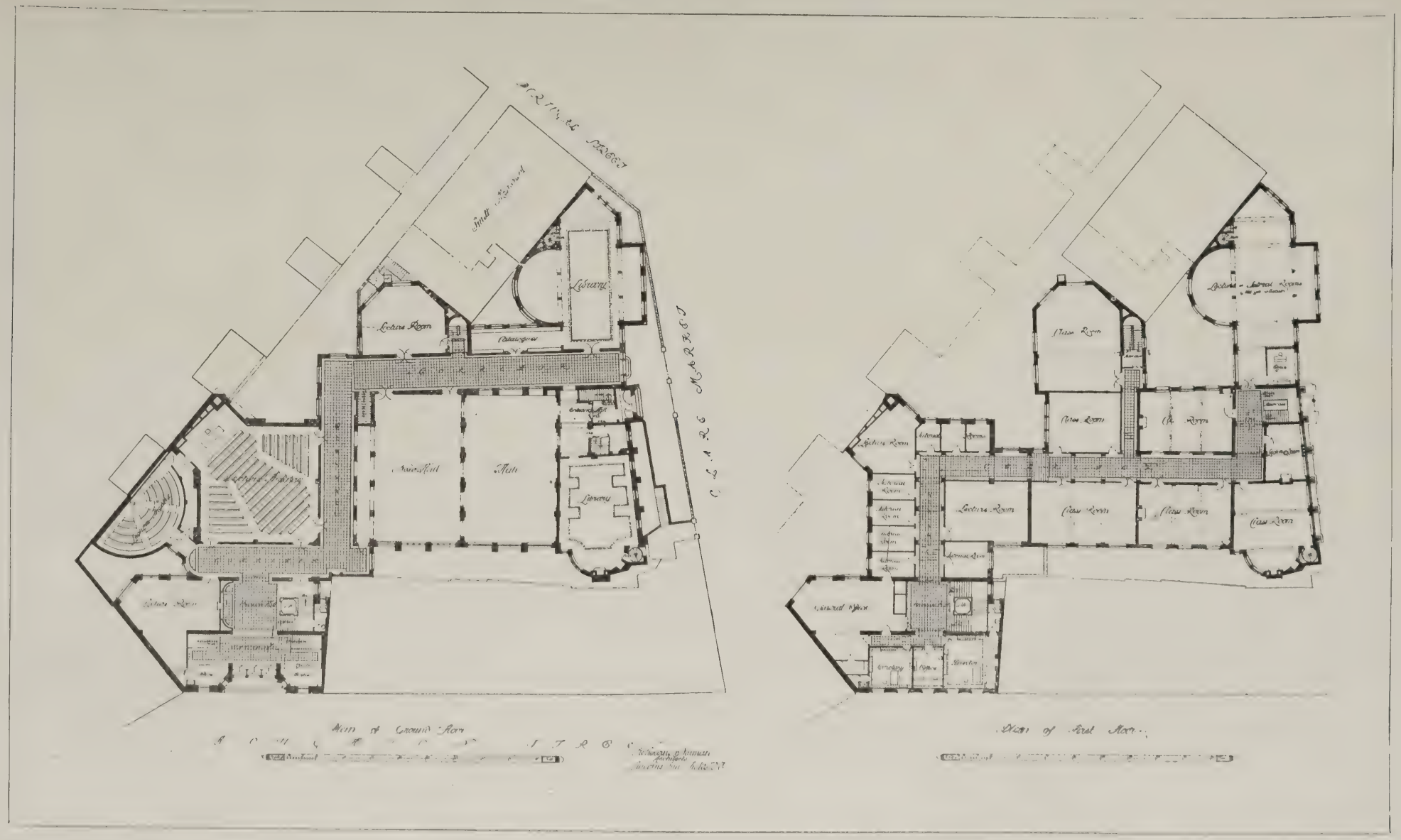
Reports by the secretary and treasurer were received and approved, both pointing out that the growth of the work of the union would necessitate immediately the taking of its own offices, the employment of permanent assistance, and an increase of the present absurdly low subscription.

The matter submitted to the Assistants' Welfare Committee was reviewed at length and heartily endorsed. With regard to professional education, it was unanimously agreed that this must be wholly in the control of the profession and the building industry, and that the present system of articles and apprenticeship must go in toto. The proposals as to minimum wages were approved, and generally felt to be fair and not excessive. Other matters decided were the imposition of an entrance fee at an early date at the discretion of the Executive; an increase in the subscription, subject to a ballot of the members; registration under the Trades Union Acts, in order to give the union legal status, the setting up of a Divisional Council for Scotland to deal with conditions of employment and to set up an employment bureau, this on the motion of Mr. J. Mitchell, jun. (Glasgow), seconded and supported by Messrs. J. M. D. Henderson (Ayr) and A. H. Lamont, A.R.I.B.A. (Edinburgh). The proposals of the Ministry of Health with regard to "luxury" building were emphatically condemned, and the action of the Executive in the matter endorsed. The practice of local authorities employing non-professional men to do professional

ST. VEDAST'S, FOSTER LANE, FROM THE GALLERY, NOW THREATENED WITH DEMOLITION (see page 737).

Current Architecture. 22.—New Extension of the School of Economics, Clare Market, London: Ground and first-floor Plans

Trehearne and Norman, Architects



The existing School of Economics was designed without any idea of future development, thus creating a difficult problem for the architects of the new extension, the foundation stone of which was laid by the King on May 28. The scheme involves the removal of certain temporary structures, the building of two new blocks, and the linking up of these to the existing buildings. Some particulars of the work are given on page 741.

rk was very severely condemned, as o the very general practice of designat- ; qualified architects and surveyors as ıughtsmen instead of as assistant archi- ts or assistant surveyors. The Execu- e were instructed to watch the interests non-practising members of the profes- n under any scheme of registration. It s also an instruction to the Central ecutive to prepare a scheme by which special interests of the members, ether employed in private, Government, nicipal, or industrial offices, might best served.

The convention broke up on the Mon- afternoon, the various delegates de- ting to their committees or to found v branches, imbued with the spirit of operation, cordiality, enthusiasm, which gurs well for the future of the union, ttered far, but one in the close bond of ft brotherhood.

The Mystery Port of Richborough*

Major Halstead Best, R.E., F.I.S.E., Etc.

The Mystery Port, Richborough, occu- s a site which in early 1916 was a flat rshy piece of land stretching between ıdwich and Pegwell Bay, its features ısisting of Richborough Castle, a ned Roman castle, having walls over ft. thick, constructed of round boulders l flints, and at about every 4 ft. in ght string courses consisting of two ers of tiles; Stonar House—an old nor house—afterwards used as an cers' mess, its lodge acting as medical cers' quarters, and here and there a pherd's hut.

heep grazing on the rough grass were only indication of life, except when the mn stillness of the rough marshland disturbed by the cry of wild fowl or cawing of rooks, and through all this ren marsh the tortuous River Stour vly wound its way until arriving at the d flats of Pegwell Bay.

et in less than three years, by some- ıg like a wizardlike transformation, barren, marshy, more or less forgotten t of England was turned into a great e for transportation, a camp actually sing over 17,000 soldiers, workshops able of tackling repair works of prac- lly every description, and in addition a ıe for the naval "Mystery Ships" in form of a "Mystery Port."

Vorkshops were built, slipways con- cted, barges re-erected, electric light power installed, so that by the end 1916 the I.W. and D., with a strength Richborough of 6,400 men, had become ort second only in importance on the th-east coast to Folkestone, in addi- to becoming the depot of the I.W. D. In November, 1917, the number troops housed at Richborough was roximately 15,000, and the cost of the sing accommodation worked out at a e over £20 per head.

hat the year 1917 was an exceptionally vy one, as regards constructional k, may be judged from the fact that late December of that year the ngth of the I.W. and D., R.E., at hborough, was over 17,000 men.

he total area of land acquired at Rich- ugh by the War Department in con- ion with the several works carried out there was about 4,000 acres, equal to nearly 6¼ square miles, the area actually occupied by docks, wharfs, and camps being over 3¼ square miles.

As eventually it was necessary to make Richborough a proclaimed area, it was very fortunate it so happened that the main road from Sandwich to Ramsgate and Margate passed through the acquired area.

The permanent camps were five, housing a total number of 12,666 men, as under:

Stonar Camp	2,496	men
Haig No. 1 Camp	1,228	,,
Haig No. 2 Camp	1,848	,,
Kitchener Camp	6,093	,,
Cowan Camp	1,001	,,
Total	12,666	men

This accommodation was based on 39 super feet of hut space per man. To house this large number of men it required 200 huts, the inside measurements of which varied from 58 ft. 9 in. by 20 ft. 2 in. to 119 ft. 8 in. by 19 ft. 6 in. Practically all the huts were erected with concrete blocks and slabs made in the "Winget" machine, the walls being erected on the pier and panel system. The piers were formed of pier blocks, each 32 in. by 9 in. by 9 in., and erected at 9 ft. 10½ in. centres. The panels were made of panel slabs, each 28½ in. by 9 in. by 2¼ in.

At the corners of the buildings quoin blocks, L-shaped on plan, were used. The foundation, which was continuous, was of cement concrete, usually about 15 in. wide and 9 in. deep, but the width and depth were generally governed by the nature of the site. The first huts erected in July, 1916, had a sub-floor of concrete, a space of about 15 in. below the floor being provided for ventilating purposes. Later, owing to the scarcity of timber, the joists and boarding were done away with and a single concrete floor having a granolithic finish was provided instead.

It addition to huts, a church, an institute, a large hospital, foundries, machine shops, generating stations, sub-stations, locomotive sheds, and platform walls for loading purposes were all erected of similar blocks, the thickness and dimensions varying according to the nature of the work.

The various concrete blocks referred to previously were made in several yards distributed about the area at Richborough, and set apart as block making yards, having land adjoining for maturing purposes. The cement and aggregate were mixed in varying proportions, depending on the class of walling required, and on whether the finished work would be very much exposed. The mixings varied from 1 of cement and 5 of gravel to 1 of cement and 9 of gravel. The concrete mixers were erected on a raised platform, so as to deliver the mixing by means of a shoot to a position near the block-making machines. The pallets having been placed in position the mixture in a semi-dry state was well punned in the mould, and the green blocks removed on their pallets to the drying ground. Here the blocks, if the atmosphere was at all dry, were well watered through a fine hose, otherwise an accelerated drying would take place, resulting in the development of visible cracks which would render the blocks liable to be damaged easily during transit to the building site.

A very large quantity of the aggregate used in making the concrete, both for mass work and for concrete blocks, was obtained from the bottom and sides of what is now known as the "North Lake," but what was originally a gravel pit opened by Messrs. Pearson and Sons in connection with the Dover Harbour works.

Another important feature in the Richborough concrete block yards was the manufacture of reinforced concrete blocks for making pill-box emplacements, over 1,000 complete pill-boxes having been made on August 7, 1918. The personnel for the erection of these pill-boxes was formed out of the transportation companies, having been specially trained for this purpose at Richborough Depot.

*Extracts from a paper read at the Concrete Institute.

The London School of Economics

In this issue, by courtesy of the architects, Messrs. Trehearne and Norman, we are able to illustrate the designs for the new School of Economics, the foundation stone of which was laid recently by the King. The existing building was designed with no idea of development, and the architects have therefore been confronted with a difficult problem in adding the new buildings, which occupy a very awkward site. On the north-west and south-west sides two buildings of 100 ft. are encountered, so that lighting, too, has been a difficulty.

Owing to the large number of students it has been necessary to provide exceptional corridor space, but loss of space has been minimised by extending the galleries of the lecture rooms over the corridors by means of a mezzanine floor.

The scheme involves the removal of certain temporary buildings now on part of the site, the building of two new blocks, and the linking-up of these with the existing buildings. First, attention will be paid to the block which has a small frontage to Houghton Street, from which entrance to the enlarged school will be made; consequently it will be necessary to provide in it staircases, corridors, and approaches adequate to the size of the new school. This block will be at first three floors in height, though it will be left capable of receiving three additional floors. The ground floor will be occupied with lecture theatres. The mezzanine floor will consist of lecture rooms and galleries to the large lecture theatre, and the first and second floors of offices, lecture rooms, and tutorial rooms; the third floor will have teachers' and students' common rooms and lavatories.

The front of the building is to be in Portland stone, and the whole will be erected according to the most modern principles. The floors will be of cement covered with linoleum, and part of the decoration, for economy of expense, will consist of tiling. It is hoped to put in all joinery of hardwood.

The new scheme provides classroom, lecture-room accommodation of 29,590 sq. ft. as against a present accommodation of 5,000 sq. ft.

The constructional steelwork has been designed by Mr. Alexander Drew, and the heating and ventilating will be on a system devised by Mr. A. H. Barker, B.Sc., London University.

The general contractors are Messrs. Bovis, Ltd., and the sub-contractors are as follows: Tiling, Messrs. W. B. Simpson and Son; stonework, Messrs. The Nine Elms Stone Company: metal casements, Messrs. Humphries Jackson, and Ambler; patent floors, Messrs. Kleine; impervious stone steps, Messrs. The Patent Impervious Stone and Construction Company; steelwork, Messrs. Lindsays Paddington Ironworks.

Book Notices

"Willing's Press Guide."

This Press Guide is now approaching its jubilee, the present issue being the forty-seventh. Its age renders it the more comprehensive and the more accurate; for the more frequent its appearances the more the opportunities for revision and amplification. Considering the vast number of entries it is astonishing that so few errors creep in. Two very trivial typographical errors concern ourselves. On page 10 there is a mistake in spelling Tothill Street, while on page 206 there is a slight transposition of letters in the word "Architects'." These minute blemishes, however, are the only ones we have detected and they are quite exceptional, and are so insignificant as to be negligible. From an intimate acquaintance with former issues of the work, we confidently hazard the conjecture that it is entirely free from errors that are of any consequence. That is a wonderful fact, considering that there are so many thousands of entries, and that each of these appears in the several classifications which have been arranged to facilitate reference. Thus, "The Architects' Journal" appears under "A" in the "A B C" list, which is an alphabetical list of the newspapers and periodicals issued in the United Kingdom, with the year of establishment, when published, price, and publisher's name and address, and it appears again under "Architecture," and yet again under "Building." Yet again it is given under "Wednesday," in a list of Metropolitan newspapers, magazines, almanacs, etc., arranged according to the date of publication. There are lists of the London addresses of provincial newspapers, in addition to a full provincial list of publications of all kinds. Further, a list of London addresses of Colonial and foreign newspapers is followed by lists showing respectively the chief newspapers, etc., produced on the Continent and in America. In short, the volume, which is of very convenient size and weight for handling without fatigue, is a marvel of compression and classification, and it is certainly one of the most useful works that could be placed in a reference library.

"Willing's Press Guide and Advertisers' Directory and Handbook, 1920." A concise and comprehensive index to the Press of the United Kingdom, etc. London: James Willing, Ltd., 125, Strand, London, W.C.2. Price 2s.

The Liverpool University Architectural Sketch Book.

Strongly affected (like everything else) by the outbreak of the war, the work of the Liverpool University School of Architecture was carried on under very difficult conditions, and the publication of selections from it has been deferred until now. This postponement has had a rather remarkable effect in enhancing the interest and the value of the volume which has just been issued. It contains the work of three different groups of students—pre-war, post-war, and those who, from various causes, were debarred from active service and were able to continue their studies under the able supervision of Mr. Lionel B. Budden, who took charge of the school during the absence of Professor C. H. Reilly on national work.

The drawings are classified in two sections—(I.) Designs; (II.) Measured Work. Among the contributors of designs are included Mr. F. O. Lawrence, who has just been awarded the British Prix de Rome, and Messrs. W. Dougill and E. R. Arthur, finalists and prize winners in the same competition. The pre-eminence the Liverpool School has taken this year and before in this crucial competition is indirectly a proof of the merit of the designs shown in the Sketch Book, of which teachers as well as students will hasten to possess themselves in case it may—as we think it does—reveal the secret of this phenomenal success.

"The Liverpool University Architectural Sketch Book." Being the Annual of the School of Architecture of the University of Liverpool. Edited by C. H. Reilly and L. B. Budden. Published by the Proprietors of "The Architects' Journal" and "The Architectural Review," 27-29, Tothill Street, Westminster. Price 10s. 6d. net.

Laxton's Price Book, 1920.

The publishers of this standard work of reference apologise for its somewhat late appearance. In November last, when the usual revision was nearly completed, a sudden rise in the rates of wages necessitated a complete overhauling of the prices involved. This delay need not have occurred, as the old figures could have been allowed to remain unaltered, with an indication that users must add a percentage to each item; but the editors chose the more heroic—or at all events the more conscientious—course of bringing the figures up to date. Laxton is such an old familiar friend that there is no need to add that it embodies a great variety of practical information besides prices.

"Laxton's Builder's Price Book" for 1920, containing about 73,000 prices. One hundred and third edition. London: Kelly's Directories, Ltd., 182-4, High Holborn, W.C.1. Price 4s. 6d., post free.

Spons' Pocket Price Book, 1920.

The chief merit of this book is its handiness. Its small size and rounded corners render it a genuine pocket-book, easy to carry, and by reason of its excellent index and its conspicuous headings in the margins, as easy to consult. The latest rates of wages—those that came into force in December, 1919—are included in a special table to which reference can be made in arriving at the approximate prices that, after all, are the only sort that can be obtained from a book or periodical. And approximate prices are, generally speaking, all that an architect wants for his object of forming an approximate idea of cost. It is the tendering contractor who requires greater certainty, and he gets it over the 'phone. The fact, however, does not discount in the least degree the value of a price book, which, whether or not prices are subject to abnormal fluctuations, is a valuable guide to their relations and comparisons; and, besides, the contents include innumerable other memoranda that are indispensable to the architect and the contractor.

"Spon's Architects' and Builders' Pocket Price Book, 1920." Edited by Clyde Young, F.R.I.B.A. Forty-sixth edition. London: E. & F. N. Spon, Ltd., 57, Haymarket. Price 6s. net.

The Civil Engineers' Cost Book.

An excellent *vade mecum* for the civil engineer, dealing with almost every item on which he requires information, is "The Civil Engineers' Cost Book," in which Lieut.-Colonel T. E. Coleman, of the Staff for Royal Engineer Services, has tabulated and discussed an astonishing number of useful data. Acetylene Lighting, Aerial Ropeways, Afforestation, and Allotment Gardens, occur on the first few pages, from which it will be observed that the arrangement of subjects is alphabetic, which greatly facilitates reference, while, further, a copious index affords a clue to the various items with which the book is crammed.

"The Civil Engineers' Cost Book." Compiled for the use of Civil Engineers, Public Works Contractors, etc. By Lieut.-Col. T. E. Coleman, O.B.E. (Staff for Royal Engineer Services.) Third edition. London: E. & F. N. Spon, Ltd., 57, Haymarket, S.W.1. Price 10s. 6d.

Correspondence

The Federated Builde Code

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I should like to congratulate T. Sumner Smith on his very able arti on the above subject. What does a car study of these reveal? To my way thinking, a calamity! As a proof, r the following paragraph: "At any the new code, produced without fair full consultation with the R.I.B.A. the Society of Architects, has create most unfavourable impression."

It appears to me, after deliberation, the Federated Builders are trying to f the non-federated architects to use t code. All that the non-federated archit seem able to do is to protest. A protes futile in these days of commercial m tarism. This is daily brought before notice by the number of council surve and the like that are carrying out hous schemes.

I am in agreement with Mr. Sum Smith that we should have some form federation strong enough to protect our terests. Such a federation would c mand respect both from the employer the builders, and would lead to closer operation between architects and build so very desirable to their mutual welfa

T. MILNES FODE

Manchester.

Master Plasterers an Luxury Building

Mr. E. F. Jackson, director of Mes G. Jackson and Sons, Ltd., has sent following letter to Mr. John W. Simp P.R.I.B.A., who has kindly consented its reproduction here:—

49, Rathbone Place, London, W

DEAR SIR,—I am desired by the c mittee of the London Master Plaste Association and Allied Crafts to conve you their grateful thanks for your let to "The Times" with reference to proposed stoppage of so-called "luxu buildings.

This Association comprises practic all the London firms manufacturing terior architectural decorations, such modelled fibrous plaster work, wood stone carving, plain and decorated inte woodwork, Carton Pierre and compos work, etc. They employ a large num of skilled men, all of whom are unsu and unfitted for work on housing sche

If the threatened refusal to allow buildings to be proceeded with beco an accomplished fact, we fear a l amount of unemployment, not amongst these workmen, but also amo the numerous artists, modellers, draug men, clerks, etc., who are also emplo in this particular branch of the buil trade.

We strongly feel that these prop building restrictions will be a great take and will not advance the buildin new houses.

We endorse what you say in your l to "The Times" of April 30, namely

"That every kind of building must encouraged so that more labour may attracted to and absorbed into industry."

Let every building go on. The unions e quite strong and sensible enough to event too many men of the particular ss required for housing schemes being ployed on any one new building and to ect their members to work where they e urgently required for houses. These w buildings will of necessity be slow in ir erection, but they will be proceed-, and also all the interior work made the various allied building trades cessary for their ultimate completion. We shall not then have to experience lack of work which we accepted with-t complaining during the war; but ould it occur now, as occur it will if new ildings are stopped, it will be very un-r to us and of no advantage to the using schemes.

I am, Sir,

Yours obediently,

EDWARD F. JACKSON, President.

John W. Simpson, Esq., President of R.I.B.A., 9, Conduit Street, W.1.

Trade and Craft

The Indispensable Housebreaker.

That housebreaking is an art every chitect will acknowledge. Done in the ong way, it spells disaster. At one time even within living memory — the thods of reducing a building to its nponent parts were exceedingly primi-e. One's prevailing impression of the lier process was that of a man deli-ely balancing himself on the broken of a tottering wall, hitting it lustily m under him, and mingling his own nains with the consequent débris. is procedure was abandoned because sers-by and neighbouring property involved in the damage. The more d-headed the pedestrian or the adja-t property-owner, the more vehemently protested against the "shower of cks." As civilisation advanced, it ught the greater refinement of strong ection not only to falling bricks but to ng and falling dust. Stringent by-laws e made it so necessary for the house-aker to do everything decently and in er, that his may now fairly be ranked ong the skilled industries. He does work methodically if not scientifically; l when he breaks up a building that tains things worth preserving—the panelling, the artistic ceiling, the utiful overmantel—skill, care, and dis-nination must be among his assets. work becomes then delicate as well dangerous.

ome housebreaking firms are in a ge way of business, and it is to such is that one chiefly looks for safe, com-ent, and altogether trustworthy ser-. The firm of Henry Allen, Ltd., 101, hurst Road, Hackney, E.8, which now upies a foremost position in this pecu-line of business, has grown from ll beginnings. Founded by Henry n in 1899, it got its first big job in 4, when Haydon Square Goods Sta-on the London and North-Western lway, was destroyed by fire, and the was cleared by Henry Allen, who, r, undertook all the extensive cartage ks incidental to the rebuilding. Suc-ive large undertakings were excava-and cartage work for the L.C.C. sewer a Hackney Wick to Stamford Hill in 8-9, for the Central London Railway nsion from the Bank to Liverpool et in 1911-12, and the clearance of the for the new Port of London Authority ces, Trinity Square, in 1913. During these years many other minor house-breaking and excavating jobs were carried out.

In 1912 the firm razed to the ground a slum area in Somers Town, and demolished the fire station in Bodney Road, Hackney. In 1913, it carried out house-breaking works in the Strand, Holloway, New Bond Street, Stoke Newington, Cornhill, Lombard Street, and elsewhere, and excavating jobs in Bishopsgate, Whitechapel Road, etc.; and in 1914-15 the firm was entrusted with housebreaking jobs in King William Street, Temple Street, Lafone Street, Gracechurch Street, Hanbury Street, and elsewhere.

Work, of course, was brought to a standstill during the weary years of the war, but as soon as the armistice was signed the firm got to work again, and quickly brought their number of horses and vehicles up to the pre-war standard. Their wheelwrights' shops, where they build and repair their own vehicles, were set in order, and repairs which had been neglected for five years were carried out.

Early in 1919, housebreaking and excavating jobs were undertaken both in the City and outside, and at the present time the firm is engaged in many important works of demolition and excavation —for example, in Coleman Street, City, King William Street, Great Tower Street, and elsewhere, in preparation for post office, railway, and many other building operations.

For several years the firm have made a speciality of supplying crushed and washed ballast and broken brick for use in fireproof floors and reinforced concrete construction. They have a most up-to-date crushing plant, and, in spite of the enormous demand for this material, they have never yet failed to obtain and deliver sufficient to keep every job they have undertaken amply supplied.

Messrs. Siemens, Brothers, and Co., Ltd.

Messrs. Siemens, Brothers and Company, Ltd., inform us that they are taking over the lamp and supplies department of Messrs. Siemens Brothers Dynamo Works, Ltd.

Contemporaneously with this change the company is making provision for a largely increased output in metal filament lamps, and it is announced that henceforth these lamps will be sold by the company under the distinctive trade name of "Xcel." This trade name will apply to all types of metal filament lamps manufactured by the company, which include the following:

Standard vacuum lamps, half-watt lamps, automobile and battery lamps (vacuum and gas-filled), helical filament traction lamps, which have been designed specially to meet the requirements of electric tramways and railways, and for use in workshops and factories where lamps are subject to severe vibration.

As from June 1, 1920, Messrs. Siemens Brothers and Co., Ltd., will conduct the business in lamps and supplies from the same addresses in London and the provinces as hitherto, where, in addition to fitting and lighting supplies, attention will be given to enquiries regarding the whole of the material manufactured by the company at its Woolwich works, such as wires, cables, stannos wires, telephone and telegraph apparatus, fluid and dry cells, flashlamp and torch batteries, etc.

The company's showrooms at 38 and 39, Upper Thames Street, London, E.C., have been redecorated and refitted and all bona-fide trade buyers are invited to call.

We are asked further to remind the trade that the advice of the illuminating engineering department of the company is at the disposal of contractors to assist them in the development of any lighting schemes which they may have in hand.

Aspinall's Glaze.

Nothing aroused more interest at the stand at Aspinall's Enamel, Ltd., at the recent Building Exhibition, than the examples of brick and fibrous plaster painted with this company's two-coat glaze treatment. The close resemblance to a salt glaze given by an application of two coats (one of ground colour and one of glaze), with an ordinary paint brush, is extraordinary. The effect is durable and lasting, and it is not surprising to hear that many enquiries are being made by architects and contractors with a view to the use of this treatment in housing schemes in various parts of the country. Supplied in various shades of brown, green, yellow, and red, the glaze makes an ideal dado for sculleries, passages and corridors, and it is being largely used for outside work where the expense involved prohibits the use of glazed tiling. One of the largest brewing firms in the country is making extensive use of the glaze on the fronts of many of its licensed houses, and the work carried out in two shades of sienna brown has the transparency and tone of faience ware.

British Institute of Industrial Art Exhibition

This exhibition, established by the Board of Trade and Board of Education, and the first of a series to be financed by H.M. Treasury, opened on Monday, May 31, at 217, Knightsbridge, London, S.W.7, under the directorship of Major A. A. Longden, D.S.O. The exhibition is divided into two sections, viz., a Trade Section and a Crafts Section.

The former is restricted to manufacturers of furniture, glass (including stained glass), heavy metal work, pottery, textiles, and wall paper. The latter, on the other hand, is open to all artistic crafts.

The exhibits embrace many beautiful specimens of work in embroidery, tapestry, and carpets, hand-woven textiles, furniture, wood-carving, pottery, stained glass, jewellery, metal work, and war memorials. Much of the furniture, as well as other exhibits, have been designed by well-known artists. All works intended for exhibition come before a selection council; work of every school or tendency is welcomed provided that it is of a high standard in design, workmanship, and material. An important loan exhibition is in process of collection for addition to the present display at an early date.

The objects of the promoters of the exhibition are to set a higher standard in the furnishing of the home and to demonstrate that tastefully designed and finished articles can be produced as cheaply as the inartistic objects so frequently seen.

The exhibition is open to the general public each day from 10 a.m. to 6 p.m., the price of admission being 1s. 6d., except on Tuesday and Thursday evenings, when the entrance fee is 9d. It may be added that the work of the artist-craftsmen may be purchased at the exhibition.

It is hoped to make the exhibition a continuous and permanent medium for the display of artistic products.

Metal Corrosion and its Prevention

Among the numerous forms of decay to which building materials generally are liable, the corrosion of metals is perhaps the most insidious of them all. Scientists as well as practical engineers have studied the question for years past, and protective measures of various kinds have been adopted to retard its destructive effects.

The daily increasing use of steel in building work makes it more than ever necessary, therefore, that the problem of how to arrest this particular form of disintegration should be solved.

In this connection it is of interest to draw attention to the researches which have led to the discovery of Kelasto, a new chemical agent recently shown at the Building Trades' Exhibition by Messrs. H. Fender and Co., of 256-257, Bank-chambers, High Holborn, W.C.

The principle upon which the inventors proceeded to work may be best explained by the old adage, "Set a thief to catch a thief." In other words, corrosion being a chemical action, the best antidote for it is —another chemical action.

Kelasto has been in existence for the last three years, during which period it has been exhaustively tested in the National Physical Laboratories and by the Chemical Research Company, as well as submitted to many practical tests, with the result that this preparation has been found to possess valuable anti-corrosive properties.

Two tests, independent of those already mentioned and confirmatory of them, may be briefly described. One consisted in painting the surface of two iron plates with two coats of Kelasto on one side only and submerging them in the sea by attaching them to the substructure of the West Pier at Brighton. For purposes of comparison, a third plate coated with red oxide was also submerged under similar conditions. After the lapse of nearly four months, all three plates were examined, and while that which had been coated with red oxide had become so soft through corrosion that pieces could be peeled off with the finger nail, the action of the sea water had produced no effect on the surfaces of the two which were protected with Kelasto.

The other test was more severe, though different in character. In this case a smoke plate of steel—about one inch in thickness—fixed to the underside of a railway bridge to protect the ironwork from the fumes of locomotives was given three coats of Kelasto in January, 1919. As a result of this the plate in question is today in perfect condition, and the surface, despite the fact that it has been subjected to blasts of sulphurous fumes and ashes having a pressure of 135 lb. per square inch, and a temperature of 400 degrees Fahr., has suffered no deterioration. In ordinary circumstances a smoke plate has to be replaced within a comparatively short time.

Kelasto, which is applied like ordinary paint, when used as a lining to concrete or brick storage tanks is guaranteed to resist the corrosive action of strong acids at atmospheric temperature or slightly above, say up to 100 degrees Fahr.

A variant of this preparation, named by the manufacturers Kelasto No. 2 (electrical), is particularly adapted for all situations in which electrical conditions or influences prevail, and may be used as a substitute for lead or glass in accumulator boxes, etc., and for the coating of marine or land cables. The manufacturers claim, moreover, that it is a perfect insulator.

The third form in which Kelasto is prepared, known as No. 3, is essentially similar in basis to that which has already been dealt with in the earlier paragraphs of this article, the distinction being that it contains no pigment. It is a clear and water-white liquid, and when dry leaves no trace or stain. It may, however, if required, be coloured to any tint. This preparation is mainly employed for waterproofing, and can be applied to any porous material, which, it is stated, will be rendered acid-fume proof when so treated.

Competition News

Rhyl War Memorial Hospital.

Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the Society that the conditions have been approved by the Council.

Gravesend War Memorial.

Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the Society that the conditions have been approved by the Council.

Twickenham War Heroes' Memorial.

The Competitions Committee of the R.I.B.A. desire to call the attention of Members and Licentiates to the fact that the conditions of the above competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members and Licentiates are advised to take no part in the competition.

Societies and Institutions

Nottingham and Derby Architectural Society.

The 57th annual meeting of the Nottingham and Derby Architectural Society has been held at Nottingham. The Council recorded with regret the loss by death of Mr. Robert Booker, their honourable and oldest member. The total membership was stated to be 111, an increase of six on the previous year. Six general meetings had been held during the winter session, including one at Derby. A complimentary dinner to welcome back the ex-Service members was held in Nottingham. Invitations were sent to every member who had served with the colours and thirty-one accepted. The Council regretted that an offer to the School of Art Committee that a representative would be of assistance had not been accepted. The Council had been in constant communication with the master builders with regard to difficulties in the building trades, and invited them and the building operatives to a conference at which several useful suggestions were made. The hardship to the profession by stoppage of work on so-called luxury buildings had been fully considered, and it was decided at the meeting to send a letter to the Town Clerks of Nottingham, Derby, Lincoln, and other towns within their area calling attention to the unemployment that would ensue to the higher skilled artisans if only unremunerative housing schemes were proceeded with.

The following were elected officers for the year: President, Mr. H. G. Watkins; vice-president, Mr. A. Eaton; hon. secretary and treasurer, Mr. F. M. Royle.

Royal Engineers' Wa Memorial

A Special Committee, representing branches of the corps of Royal Engine including Territorials and New Arm which was appo'nted soon after the ar tice to draw up a scheme for the R Engineers' War Memorial, has deci that a proposal, now under considera by H.M. Office of Works, to allot sites on the Mall, opposite Marlboro Gate, for war memorials, affords the satisfactory solution for the monume side of the Royal Engineers' Memo One of these sites has accordingly applied for and, if they become availa the four sites would be treated in one c prehensive architectural scheme. I understood that the Cavalry, the R Artillery, and the Guards are conside the question of taking up the remai three sites. Should the Mall scheme through, a memorial would be erecte a War Department site at the corps h quarters at Chatham, near the Crim and South African Memorial arches. this case competitive designs will be vited, with Sir Reginald Blomfield, R as assessor. Permission has been obta to instal the Royal Engineers' Roll Honour in the N.W. Chapel of St. Pa Cathedral, where the National Memo to Lord Kitchener is to be placed. chapel will be known as the "Kitch Chapel," and it is intended to provid ex-R.E. custodian to facilitate inspec of the Roll.

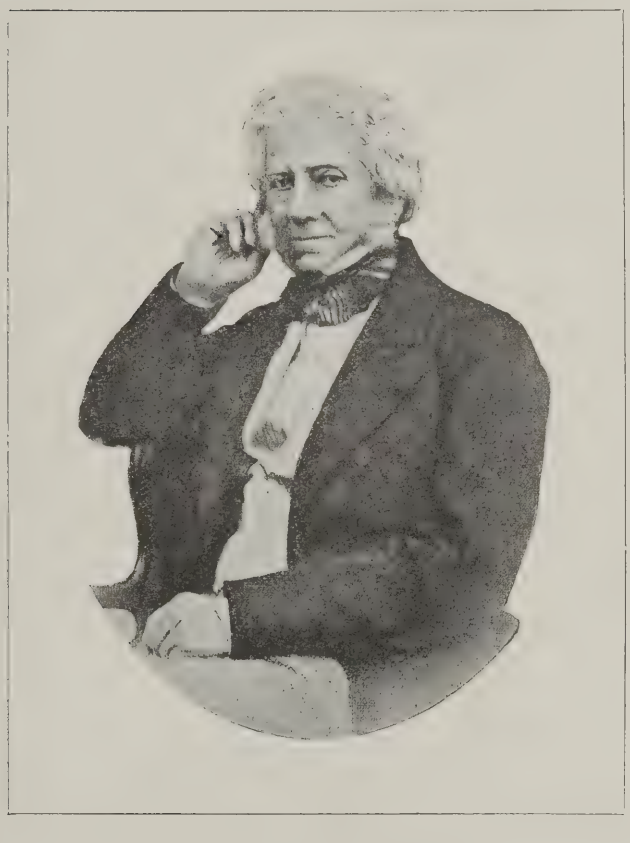
The balance of the subscriptions to memorial is, to be devoted to gi educational assistance to the depend of those killed or incapacitated in war, the capital and interest the being utilised and the expenditure sp over a period of eighteen years. S scholarships will be granted to help and daughters of the men to go technical and secondary schools; als help sons and daughters of those wh pre-war days would have sent their dren to a public school or a sim institution.

The President of the R.I.B.A. has ceived a letter from Lieut.-Gen Ronald C. Maxwell, Chairman of Royal Engineers' War Memorial C mittee, stating that, so far, the total scriptions amount only to some £32 The Mall monument will cost at £15,000, and the Roll of Honour in Paul's £1,000, leaving but £16,000 education. A large proportion of offi and men had returned to civil life be any appeal to subscribe could reach th and it has been possible to get into t with only a very few since. General M well, therefore, asks the aid of the I tute in bringing the matter to knowledge of ex-R.E. architects in o that they may have an opportunity o operating by subscribing to the mem and by spreading the information t ex-Royal Engineers and relatives of deceased with whom they may be in tact. General Maxwell emphasises fact that this is in no sense a memori regulars only. Benefits, scholarsh etc., will be distributed to all all Regulars, Special Reserve, Territo and New Armies, and to all branche the corps, including transporta signals, and all special companies r for the varied duties allotted to the E neers in the war. Subscriptions sh be sent to the Secretary, R.E. Memorial, Royal Engineer Insti Chatham.

Wednesday, June 16, 1920 Volume LI. No. 1328

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



CHARLES ROBERT COCKERELL, R.A.

Born on April 28, 1788, the second son of Samuel Pepys Cockerell, "an architect of repute in his day, and surveyor to the East India House." He travelled in England, Turkey, Greece, and Italy, and at Bassæ discovered the Phigaleian marbles. In 1829 he was elected A.R.A., in 1836 R.A., and in 1848—with honours crowding upon him—was chosen as the first Royal Gold Medallist of the R.I.B.A. Was a foremost figure in the Classic Revival of the early nineteenth century. He died in 1863, and was buried in St. Paul's beside Wren.

27-29 Tothill Street, Westminster, S.W.1.

Modern French Architecture. 5.—Library, Boulevard St. Germain, Paris

Charles Garnier, Architect

The circular corner motif is one which, if not wholly peculiar to Paris, is better handled there than elsewhere; though in London we have a very good example in Messrs. Mewès and Davis's "Morning Post" building, in Aldwych. The above is an excellent specimen of its kind, besides being a notable example of Garnier's virile art.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, June 16, 1920 Volume LI. No. 1328

"Clumsy Architects"

ARCHITECTS must have read with some surprise the attack upon them in the "Daily Mail" a week or two ago. It took the form of the weekly letter of "An Englishman," and it bore the title "Clumsy Architects." Why clumsy? Had it been written just before the war the writer would almost certainly have chosen the very popular term "effete" instead.

The profession is quite used to criticism. There is not much else for it to live upon just now. That is perhaps why so little notice has been taken of the "Daily Mail" rebuke. Yet it deserves reply if only for the fact that the journal which gave it to the world is read in a million homes. It is a mistake to suppose that newspaper readers are not influenced by the views of their favourite organ. Politically it may be true that the newspapers are losing their power, though that is a debatable point. But there can be no doubt that in such abstract matters as art and good taste they still retain their hold upon the public. Perhaps that is why in England the appreciation of art is at such a low ebb. However that may be, it is, at any rate, the reason why a reply to "An Englishman" should be made. Architects cannot afford to let judgment go by default.

What is "An Englishman's" complaint? He takes up Sir Thomas Jackson's lament over the artistic degradation of our London streets. He re-echoes his indictment, which includes charges of "cheap vulgarity," outrages upon good taste, and monstrosities of false ingenuity. But "An Englishman" goes further. "No word spoken in dispraise of our streets by Sir Thomas Jackson," he asserts, "is harsh or unjust. It is impossible to palliate the foolish extravagances of the modern architects who build without a plan and without discipline, who do not scruple to destroy the uniformity which is essential to the elegance of our squares, and who do not understand that they impair the scale of perfection itself by setting by perfection's side a vulgar, impertinent neighbour. Fifty years ago it was the fashion to laugh at the restrained monotony of Baker Street and Harley Street. What would we not give to-day if that monotony were assured us elsewhere? Alas! We are fobbed off instead with countless specimens of an eccentricity meaningless and absurd. It is as though architects and those who employ them were in a conspiracy to show to what vile purposes money and ingenuity may be perverted. All the lessons of the past have been forgotten. The chain of tradition has been rudely snapped; and England, which once took a national pride in her architecture, submits complacently to the utter degradation of her cities."

There is an air of too severe a restraint about this. It is not sweeping enough. Everybody knows, of course, that British architecture went out with Inigo Jones and Wren. It only needed the European war to give it the *coup de grâce*—or the letter of "An Englishman."

But more follows. It is a relief to find the British architect does not stand alone. France is in like case. And not France only, but the rest of the world, too. The vice of vulgarity is universal. London, of course, has already been spoilt. Paris also has suffered. What a world!

We do not know whether "An Englishman" will admit Westminster Cathedral as a modern work. We wonder if he even thinks it worthy of remark. But he must, as least, concede that the new Marylebone Town Hall, the Middlesex Guildhall, the London County Council Hall, and the Central Hall, Westminster, are twentieth-century buildings. Are they beneath contempt? Are they vulgar? Let him walk up Kingsway and cast a glance at Holy Trinity Church. Is that meaningless and eccentric? He may perhaps retort that these are the exceptions. Unhappily lack of space alone makes it impossible to give further examples, but if he cares to look through the files of this Journal he will find at least one sound and worthy instance of modern British architecture in every issue.

The humorous thing is that while "An Englishman" charges architects with the ruthless overthrow of our finest traditions, architects themselves complain that the profession as a whole too slavishly adopts the patterns of the past. No one denies that there are bad architects. It would be passing strange if all were good. That is a standard which, we are sure, "An Englishman" does not even expect to find in his own profession. Yet he would be justly indignant if any outsider condemned all journalists and writers as bad because some of them happened to be either indiscreet or incompetent or both. Will he not give the same measure of justice to the profession of architecture?

Who is to blame for whatever bad architecture there may be? Sir Thomas Jackson suggests it is partly the fault of the art critic, who failed to protest when the first signs of this artistic vulgarity we hear so much about appeared. "An Englishman" claims that the responsibility rests with the artist and not with the critic, and he suggests two remedies, both in the circumstances, like the architects he loves so much, "clumsy"! He calls upon the professional bodies to discipline their erring members. Presumably he does not know their powers—and their lack of power. Perhaps he is unaware of the fact that anyone may practise as an architect. There is no law for architecture like that for medicine or the Bar. If a doctor outrages professional etiquette he can be debarred from practice. If a barrister or solicitor offend he may be quickly brought into line by the threat of being dis-barred or removed from the register. That cannot be done with an architect, though the responsible men in the profession are hoping some day to secure legal registration, which would in effect give to architecture full disciplinary power.

If "An Englishman" would like to find the only present way out he must seek it along other paths. What is needed is the conferment on local bodies of the right to veto any building on artistic grounds. It is a dangerous experiment, and its actual operation should be entrusted to the profession, or to bodies similar to the

London Society, which, by the way, is strongly supported by architects. Architects have long been aware of the folly of allowing private owners to put up any building in any style they like regardless of the surroundings. Some of the leaders of the profession have worked hard for the institution of some form of artistic supervision of new buildings to insure the harmonious development both of London and of the provincial cities and towns. Their efforts have met so far with little response. The reason is not far to seek. The English are intensely individual. That quality—a quality which has helped to make the Empire what it is—has its obvious defects. One of them is the insistence upon individuality in architectural style. The architect is not a free agent. He is engaged to design a building in accordance with the wishes of his client. If his client orders an office or a shop or a house unlike any around it the architect has no option but to carry out his instructions. Within those limits he will, of course, produce the best architecture he can. If it does not conform with the building around it, it is the fault of the client and not of the architect.

Yet "An Englishman" would punish the artist, but leave his patron alone. He urges that the artist "should refuse to give to the public that which will debase its taste." That is an ideal with which all architects agree. Moreover, they would gladly see it applied to other professions, not excluding journalism. It is an ideal which, though "An Englishman" may not know it, is quite often reached in architecture, even to-day. The profession are anxious to secure architectural harmony both in London and in the provinces. But they are powerless unless they get the active support of their clients, and, more important still, of the civic bodies.

Even to hang an architect, as, adopting Disraeli's advice, "An Englishman" amusingly suggests, will not do it. If it would it might be worth trying—always assuming you hanged the right man.

CROSSLEY DAVIES.

Notes and Comments

The R.I.B.A. Elections

THAT the newly-elected Council of the R.I.B.A. contains eight new names is because eight seats became vacant. Sir John Burnet and Messrs. J. J. Joass, W. R. Lethaby, A. N. Prentice, C. Stanley Peach, G. G. Scott, H. D. Searles-Wood, and F. M. Simpson, Fellows on the old Council, did not stand the hazard of the die, and their places have been taken by Sir E. L. Lutyens and Messrs. H. M. Fletcher, J. G. S. Gibson, E. S. Hall, E. V. Harris, Sydney Perks, W. E. Riley, and Maurice Webb. It is very remarkable that in no single instance was a Fellow offering himself for re-election rejected. Of the six Associate Members, only two are new—Mr. S. H. Hamp and Mr. W. G. Newton—and they turn nobody out, but simply fill vacancies. All this is exactly as it should be. It would be impossible for the electorate to give a clearer indication of its confidence in the old Council and its declared policy. That policy is summed up in the vague but convenient phrase Unity of the Profession By unity we are to secure Registration, and by Registration we are to clinch unity. As we said in recommending the electorate to follow Abraham Lincoln's advice not "to swop horses when crossing the stream," the initial step towards unity was to elect a united Council, and the only way to do that was to vote for the candidates upon whom it was known that the President could depend for loyal and enlightened support in the coming arduous campaign. To us it is extremely gratifying that this advice has been followed with such signal results. The result of the elections is an evidence of unity of aim and effort.

The Crystal Palace

The King's interest in the Crystal Palace is a heritage. In throwing it open to the public last Wednesday His Majesty doubtless had in mind the salient fact in the history of the building that it was originally constructed to house, in Hyde Park, the Great Exhibition promoted by his grandfather, Prince Albert. Of the Great Exhibition opened by Queen Victoria on May 1, 1851, and closed to the public on October 11 of the same year, the building was sold for £70,000, and re-erected at Sydenham under the direction of Sir Joseph Paxton and Messrs. Owen Jones and Digby Wyatt. It was opened by Queen Victoria on June 10, 1854. Wednesday, June 9, 1920, when King George opened with due pomp and circumstance the Imperial War Museum to which the great glass house is now devoted, was historically the most glorious day that the Palace has ever seen. Nor can it have seen many that have been finer in the mere matter of weather; for, in the words of a lady who has kindly favoured us with her impressions of this great occasion, it was a day of "clear blue skies, fresh breezes, and brightest sunshine, imparting a brilliant radiance to the myriads of flags and emblems with which the Palace was richly hung, as well as on the sombre and sinister trophies of the Great War." Strange irony—that the building expressly designed to encourage international amity through the arts of peace should at length have become a War Museum. Some day—may it be soon! —it will again become a home of the arts and industries of peace.

Building Guilds

Mr. A. J. Penty on Guilds is always good hearing. He is so bland and courteous a controversialist, writing as one who, basing his arguments on bed-rock-bottom truth, has no need for bluster, but may speak with the calm assurance of absolute finality. Someone once said, "I wish I could be as cocksure about anything as Macaulay is about everything." For us Mr. Penty's method always recalls that anecdote. But he has not the pomposity of Macaulay, and does not argue for victory. He is addicted to dogmatism, however, though never vehement in it. Thus it is with the utmost coolness that he affirms, in a letter which we print on a later page, that "The Guilds will arrive not because they will overthrow capitalism, but because capitalism will become unworkable." When and how this change will take effect, and whether suddenly and violently, or gradually and painlessly, he does not pretend to say, because he is not prophet as well as sage. It will only be, we fear, when, men's hearts being changed, the scale of social values is radically revised. Yet Mr. Penty seems almost to welcome the housing muddle as if it were in effect a great stride towards industrial regeneration. This is optimism in excelsis!—an almost heroic belief in the blessing in disguise. Capitalists, he avers, have nothing to fear from the Guilds and everything to fear from the present industrial system. It may be so; but the outlook is very nebulous. What we really believe to be practicable is the effectual development of the fraternal spirit of the Guild. The form in which it is embodied is of much less consequence to industrial welfare. We were more pained than surprised to find that the very first thing that happened in the alleged Builders' Parliament was sharp cleavage between the old order and the new. Every effort should be made to heal this breach; but the dogmatic assertion of advanced views will only widen it. Nevertheless, we

should warmly welcome Mr. Penty's incursions into this field, if it were only because he is an architect. Plainly the matter is of the utmost importance to the building industry, and is one in which they are profoundly involved. What they could contribute towards the solution of the industrial problems that are clamouring for solution would be of inestimable value, and yet, with exceedingly rare exceptions, they are holding austerely aloof from it. The Ministry of Health state that their attitude towards the building guild principle has from the start been one of sympathy, and as we go to press we learn that both bodies are now in agreement upon various proposals. (See page 770.)

Luxury Building Appeals

Glasgow Appeal Tribunal has delivered an eminently common-sense judgment on a question of prohibiting luxury building. There had been nine appeals against the prohibition of building operations in connection with cinema theatres, and the Appeal Tribunal found that there was no necessary competition for men or material between the buildings prohibited and the schemes for housing, most of the labour required for the cinemas being different in character from that required for dwelling-houses. In the opinion of the tribunal it is morally obligatory on a local authority to exhaust every possible means of avoiding interference with the normal freedom of an industry so complex and of such national importance as the building trade. Further, the tribunal considers that the statute warrants a prohibitory order only as a last resort, after conference between the practical men who are concerned with the erection of different classes of buildings, and after the adoption of methods of placing contracts for house building which will encourage the distribution of work and the drawing of labour to house building. This important judgment—the first of its kind—was published in full in the "Glasgow Herald" of June 7. Its influence can hardly be overrated. It formulates the equity and common sense of the matter. An important point with respect to prohibition was decided last Friday in a King's Bench Divisional Court. A picture house company at Huddersfield had been forbidden by the Corporation to proceed with the building of a palace, and the Housing Act Appeal Tribunal confirmed the order, deciding the case on documentary evidence alone. In giving judgment last Friday, the Lord Chief Justice said he could not find that there had been a real hearing, and the underlying principle of the law was that every man had the right to be heard before any order was made against him. The Court (Mr. Justice Shearman dissenting) ordered the Tribunal to hear the appeal. It is well. This Star Chamber business of condemning a party unheard cannot be too vigorously stamped out. It is as arbitrary and as un-English as the prohibition itself.

The R.I.B.A. Election Results

Following are the results of the elections for Council and Standing Committees of the R.I.B.A. for the year 1920-21:—

PRESIDENT.

SIMPSON, John William, Membre Corr. de l'Institut de France

HONORARY SECRETARY.

KEEN, Arthur

VICE-PRESIDENTS.

ADSHEAD, Professor Stanley Davenport, M.A.Liverpool
CAVE, Walter
CROSS, Alfred William Stephens, M.A.Cantab.
DAWBER, Edward Guy, F.S.A., Past Hon. Secretary.

MEMBERS OF COUNCIL.

ATKINSON, Robert.
BARNES, Major Harry, M.P.
CLARKE, Max.
DOWNING, Henry Philip Burke.
FLETCHER, Sir Banister Flight.
FLETCHER, Henry Martineau, M.A.Cantab.
GIBSON, James Glen Sievewright.
GREEN, William Curtis.
HALL, Edwin Stanley, M.A.Oxon.
HARRIS, Emanuel Vincent.
HUBBARD, George, F.S.A.
LANCHESTER, Henry Vaughan.
LUCAS, Thomas Geoffry.
*LUTYENS, Sir Edwin Landseer, R.A.
*PERKS, Sydney, F.S.A.
*RILEY, William Edward, R.B.A., M.Inst.C.E.
WATERHOUSE, Paul, M.A.Oxon., F.S.A.
*WEBB, Maurice Everett, M.A.Cantab., D.S.O., M.C.

ASSOCIATE-MEMBERS OF COUNCIL.

ABERCROMBIE, Professor Leslie Patrick, M.A.Liverpool.
CUBITT, Horace William.
HAMP, Stanley Hinge.
HARRISON, James Stockdale (Leicester).
*NEWTON, William Godfrey, M.A. Oxon, M.C.
SOLOMON, Digby Lewis, B.Sc.Lond.

PAST PRESIDENTS.

*BLOMFIELD, Sir Reginald, R.A.
HARE, Henry Thomas.

REPRESENTATIVES OF ALLIED SOCIETIES.

BUCKLAND, Herbert Tudor (Birmingham Architectural Association).
ERRINGTON, Charles Septimus (Northern Architectural Association).
FLOCKTON, Charles Burrows (Sheffield, South Yorkshire and District Society of Architects).
GOTCH, John Alfred, F.S.A (Northamptonshire Association of Architects).
HENNINGS, Arthur William (Manchester Society of Architects).
KITCHEN, Llewellyn (York and East Yorkshire Architectural Society).
REES, Thomas Taliesin (Liverpool Architectural Society).
WATT, George (Aberdeen Society of Architects).
WHITIE, William Brown (Glasgow Institute of Architects).

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION (LONDON).

SCOTT, Giles Gilbert, A.R.A.

AUDITORS.

GOSLETT, Harold, Fellow; HUTCHINSON, Charles Edward, Associate.

ART STANDING COMMITTEE.

FELLOWS.

Cave, Walter; Downing, Henry Philip Burke; Forsyth, William Adam; Gotch, John Alfred, F.S.A.; Greenslade, Sidney Kyffin; Joass, John James; Newton, Ernest, C.B.E., R.A.; Simpson, Frederick Moore; Tapper, Walter; Webb, Maurice Everett, D.S.O., M.C.

ASSOCIATES.

Davidge, William Robert; East, Hubert Springford; Fulton, James Black; Gunn, Edwin; Guthrie, Leonard Rome; Lovell, Percy Wells, B.A.Cantab.

LITERATURE STANDING COMMITTEE.

FELLOWS.

Ambler, Louis; Briggs, Martin Shaw; Corlette, Major Hubert Christian, O.B.E., R.B.C.; Dawber, Edward Guy, F.S.A.; Fletcher, Henry Martineau, M.A.Cantab.; Hall, Herbert Austen; Statham, Henry Heathcote; Townsend, Charles Harrison; Ward, William Henry M.A.Cantab., F.S.A.; Waterhouse, Percy Leslie, M.A.Cantab

ASSOCIATES.

Bradshaw, Harold Chalton; Edwards, Arthur Trystan, M.A.Oxon.; Moberly, Arthur Hamilton, M.A.Cantab.; Passmore, Herbert; Slater, John Alan, M.A.Cantab.; Worthington, John Hubert, M.A.

PRACTICE STANDING COMMITTEE.

FELLOWS.

Ashley, Henry Victor; Clarke, Max; Cross, Alfred William Stephens, M.A.Cantab.; Hunt, William George; Perks, Sydney, F.S.A.; Scott, William Gilbee; Slater, John; Troup, Francis William; White, W. Henry; Woodward, William.

ASSOCIATES.

Cubitt, Horace William; Emerson, Harry Valentine Milnes; Gammell, Kensington; Golding, Herbert Haylock; Hutchinson, Charles Edward; McLachlan, Charles.

SCIENCE STANDING COMMITTEE.

FELLOWS.

Adshead, Professor Stanley Davenport, M.A.; Franck, James Ernest; Hornblower, George; Hubbard, George, F.S.A.; Munby, Alan Edward, M.A.Cantab.; Saul, Henry Albert; Searles-Wood, Herbert Duncan.

ASSOCIATES.

Daubney, Charles Archibald; Hubbard, Philip Waddington, M.A.; Markham, John Hatton; Shepherd, Herbert; Solomon, Digby Lewis, B.Sc.Lond.; White, Theodore Francis Hansford.

Note: * signifies new members.

The Week's News

Conversion of the Empire Music Hall

The Empire Music Hall in Leicester Square, London, is to be converted into two kinemas.

A Scots' War Memorial

It is proposed to erect around the apex of the rock at Edinburgh Castle a shrine dedicated to the memory of all Scots, both men and women, who were killed in the war.

Low Rooms in New Houses

The question of the height of rooms in relation to adequate ventilation has caused a difference of opinion between the Ministry of Health and the London County Council.

Change of Address

Owing to the expiration of the lease of their present offices in Bloomsbury Square, Messrs. Collcutt and Hamp, architects, have removed to 20, Red Lion Square, Holborn, W.C.1. Telephone No. Holborn 404.

Belgian Housing Congress

A special commission from Belgium has arrived in London to study the English garden cities, such as Letchworth, Golders Green, and Ruislip, with a view to adopting similar plans in Belgium.

Hornsey War Memorial Competition

Mr. John Austin Dempster, of Lancaster, has been awarded the premium of 30 guineas for the design for the Hornsey War Memorial. The other successful candidates are: Mr. Robert Love, Belsize-road, N.W., and Mr. Wm. C. Porte, Springfield-road, Belfast, respectively awarded 20 guineas and 10 guineas.

Honour for an Architect

For services rendered during the war, Sir Banister F. Fletcher, F.R.I.B.A., has been appointed Commander of the Order of Leopold II. (Belgium), Commander of the Order of George I. (The Hellenes), and to the Order of the Excellent Cross (Second Class, with Grand Cordon) (China).

Houses Built of Dust

Experiments are being carried out at Vancouver in the building of houses from marble dust and sawdust. It is claimed that the cost will be six cents a foot as against a present cost of 60 cents for ordinary house construction. The new material is reported to be very durable and to take a high polish.

Henry Hope and Sons' Issue of Preference Shares

Henry Hope and Sons, Ltd., metal casement and heating engineers, of Birmingham, offer 50,000 5½ per cent. tax free Preference shares, and 50,000 Ordinary shares at £1 each. The object of the issue is to provide funds for the extension of the company's buildings and plant and for additional working capital.

Waste Caused by Domestic Smoke

The Departmental Committee on Smoke Abatement will shortly issue an interim report on the injury to the health of the community and the damage and waste caused through smoke. The Committee is dealing with the whole subject very carefully, but special attention has been given so far to the effect of smoke from the domestic grate. The evidence the Committee has heard indicates that at least one-half of the smoke nuisance, even in the worst towns, comes from the domestic hearth, and that this smoke is particularly harmful to health, owing to the fact that its constituents include a high proportion of tar, soot, and free sulphuric acid than found in smoke from a factory furnace. In addition central heating plant in each house, the Committee w probably deal with the possibility of a central hot-wat installation for the supply of separate houses from common source. They will suggest that so far possible gas or electricity shall be used for heating ar cooking.

Proposed Big Cocoa Building

Messrs. Cadbury Brothers, Ltd., J. S. Fry and Son Ltd., and James Pascall, Ltd., are to erect a facto near Hobart, Tasmania, for the manufacture of coco chocolate, etc.

A Satellite Town for Manchester?

Mr. Ebenezer Howard, a pioneer of the garden ci movement, in concluding a letter to the "Manchest Guardian," states: "When the satellite town at Welwy within twenty miles of London, is well under way, t Garden Cities and Town-Planning Association, which largely responsible for its foundation, will certainly tu its attention to the problem of Manchester, which perhaps more than equally urgent."

Baronetcy for Oldham Architect

Mr. Philip Sydney Scott, the well-known Oldha architect, has been given a baronetcy on the occasion the King's birthday. As a mill architect he has been f many years connected with the Lancashire cott industry, and his father, Mr. Abraham H. Sc (1822-1904), was well known in the profession. S Philip has had a successful career, and under his supe vision the Lilac, Gorse, Cromer, Maple, Dawn, a many more mills were built from his plans.

Munificent Gift to London

Bloomsbury is booming. Within a week or two of M Fisher's announcement of the intention of the Gover ment to give a site for London University, there com the offer of the Rockefeller Foundation to give no le a sum than £1,205,000 to University College Hospit Medical School and University College. According the "Daily Mail," which was the first newspaper in th country to make the announcement, £400,250 of t money is to be expended on building works for Unive sity College Hospital and Medical School as follow New Nurses' Home, £103,000; New Obstetrics Un £109,500; New Residents' Quarters, £31,000; B Chemical Laboratory, £50,750; Reconstruction hospital wing, open-air galleries, theatres, alteration contingency fund, £106,000. Building work for Unive sity College will comprise an Institute of Anatomy, which £189,800 is allotted for site, buildings, equi ment, and library. The rest of the money is to be d voted to maintenance. With the additional buildin here foreshadowed, and with the hoped-for headquarte building for London University, the Gower Street area where University College Hospital, which was built 1833, occupies an island site—will greatly intensify character of London's learned quarter. When all the projected new buildings take form, the British Museu will be a mere item in the collection.

Historic Hall to be Submerged

Derwent Hall, the historic Derbyshire heritage of t Dukedom of Norfolk, with 3,000 acres of farm lands a two villages, are to be submerged in order to provide increased water supply for Derby, Leicester, Nottin ham, and Sheffield. A Bill, which has been passed a local legislative committee of the House of Commo

SEVEN STARS HOTEL, TOTNES.

BOW WINDOW OF INN AT STARCROSS.

Apropos of the "Ideal Public House" competition, recently promoted by Messrs. Allsopp and Sons, Ltd., the two delightful examples of old English Taverns shown above will be studied with peculiar interest. These simple and dignified exteriors, instinct with all the charm of the late Georgian period, give a good indication of the type of work that competitors are required to follow. (See also this week's "Architectural Causerie" page 753.)

THE LIBRARY
OF THE
UNIVERSITY OF ILL

provides for the construction of great masonry dams which will impound the waters of the River Derwent. The work is to be carried out in three instalments to meet the growing necessities of a great industrial area. It may be twenty-five years before the hall will be sacrificed. Meantime, the parties are making a valuation of the valuable panelling and the other fittings which the hall contains.

Devonshire House Site

Mr. J. Joass, architect to the owners, has informed a Press representative that the proposal to erect a supercinema on the site of Devonshire House has been abandoned, and in all probability the estate will be sold in lots, the auction taking place very soon.

World's Largest Hotel

Chicago is shortly to have what will be the largest hotel in the world. It is stated that the building will contain four thousand rooms, and 400 kitchens for the use of visitors who prefer to cook their own meals. London's largest hotel has only one thousand rooms.

Manchester Town-Planning Scheme

The City Council have approved a town-planning scheme involving an expenditure of two million sterling. It was stated that during the last twenty years the widening and straightening of streets in the city had cost a million pounds.

(*Continued on page 772.*)

Architectural Causerie: The English Hostelry

SO many pens have been at work describing the charm of the old taverns of England, that it may seem superfluous to attempt anything further. The wonder is that no comprehensive volume can be obtained showing the development of the inn. We have to seek information for ourselves; to tramp Watling Street, Ermine Street, and the Icknield Way, not forgetting the cross tracks, to study the vanishing features of the road. If a book were in the making with illustrations of the treasures of tavern architecture, it would find many subscribers among architects and amateurs.

* * *

There is a rather desolating consideration that had better be dismissed before we go any further. It is that architects are too rarely called upon to design roadside taverns or country hotels. We hear much of the revival of road transport. We encounter convoys of lorries from the Black Country rattling Londonwards. We admire the enterprise of omnibus proprietors who link up Midland villages over an area of fifty miles, and we are appreciative of public interest in the countryside. The road is no longer deserted. Twenty-five years ago few cyclists adventured the highways of England. A few sports drove tandem dogcarts from town to town. People began to take an interest in such proceedings, envying the freedom of the country doctor and the smartness of his gig; but the facility of rail travel weighed down their inclinations for road travel.

* * *

Some architects have made the study of inns their special hobby. Therefore the majority look forward with eager interest to the results of the competition promoted by a leading firm of brewers, in which Mr. Curtis Green is to assess the designs for a country inn. Many of us have an idea of the valuable work achieved by Mr. Harry Redfern, architect to the Board of Control, who at Gretna designed and superintended the erection of a modern inn, and brought about the improvement of many others. We have seen, too, in the pages of this Journal, evidence of the artistry in this kind of Mr. Basil Oliver, who has given thought and care to the subject.

* * *

The other evening I set out to rediscover the inns of Highgate, first making pilgrimage to the Highgate Institution, where there is an excellent collection of maps and prints of the district. Thanks to the activities of local residents, much has been preserved that otherwise might have been swept into limbo. At Highgate you may see the Horns, upon which our eighteenth-century forbears were content to be sworn after a long and dusty walk from Holborn or Pentonville. At Highgate all the old customs and formalities are observed. It is surprising what an interest the average Londoner takes in such matters and to what an extent the lure of the northern heights exercises a spell over the tired citizen. A hundred years ago Highgate meant a journey of nearly an hour by the common stage. These summer evenings, people from the heart of London journey to the summit in twenty minutes.

* * *

To the south you may see the vastnesses of London—a cobalt sea with myriads of lights. To the north, a deeper blue enshrouding the homes of Londoners who live thirty miles beyond. Old Highgate stands a sentinel to London, almost as somnolent as in the days of our great-grandfathers, picturesque, healthy, typically English, unmoved by the changing generations and their handiwork. Within the snug precincts of the Wrestlers one lives in the past. There are the panels that were in position when Bacon stopped his carriage to stuff a fowl with snow, there the very cooking-range and the stew-pot that boiled when the march to Finchley staggered Whitehall; there the veteran lacquered clock that has told of so many closing times; and one notes with a satisfaction that is not clearly explicable the general air of grained woodwork and fustified frowsiness inseparable from our conception of intimate snuggeries.

* * *

While enjoying these and other antiquated details, it was impossible to keep one's thoughts from the modern aspect of inn design. One realised that academic rules of building would not suffice for this type of problem. The arrangement of an inn depends very much on the habits of a people. Your typical inn becomes a sort of clearing-house for conviviality, for hearty good cheer, and jovial entertainment. Its design, therefore, demands from the artist a knowledge of his fellows, a grasp of life and social conditions; and this asset is immeasurably superior to mere dexterity in the wielding of the pencil and adroitness in shuffling the T-square.

* * *

The conditions of the competition for the inn, Mr. Curtis Green has arranged with consummate skill. He has studied the problem from a logical standpoint. He has suggested an eighteenth-century model, while advocating extreme restraint and discipline for expression. It is in such clear-headed propositions as are set forth in the paragraphs of this important competition that hope for the advancement of taste inheres. We see how the value of tradition is regarded, and how it can become a handmaiden to modern design. In a word, we are brought face to face with the aspirations of the traditionalists, who, after all, are the sanest body at the present time, and who, to their credit be it known, desire not to copy old models, but to emulate their spirit. May the competition for a modern inn be a success, and may it herald similar enterprise on the part of other brewers.

AERO.

A Swedish Lady's Home in Surrey

THE house known as "Malma," illustrated in this issue, was built for a Swedish lady, Mademoiselle Tosta de Bennich, in 1913-14, to the design of Mr. Basil Oliver, F.R.I.B.A. Exclusive of electric light fittings, but inclusive of wiring and all other incidental expenses, as well as central heating (ten radiators in all), the cost worked out at a fraction under 10d. per foot cube.

The main walls of the house are built of brick, 11 in. thick, with 2 in. cavity. Externally the walls are stuccoed and whitewashed, the slightly projecting quoins of exposed brickwork being merely whitewashed so as to give a rough contrasting texture, as also are the tiled arched heads to the four principal windows of the ground floor, each of which has a keystone.

The two chimney stacks, built of thin multi-coloured bricks of a Dutch type, are not whitened.

The roof is covered with red pantiles made to an old-fashioned pattern, having a much pleasanter and more pronounced curve than the uninteresting modern variety.

The ground-floor and first-floor windows on the south-east and south-west sides have French casements opening inwards and fastened with extremely simple and at that time inexpensive espagnolette bolts obtained from Copenhagen. The louvred shutters are painted green.

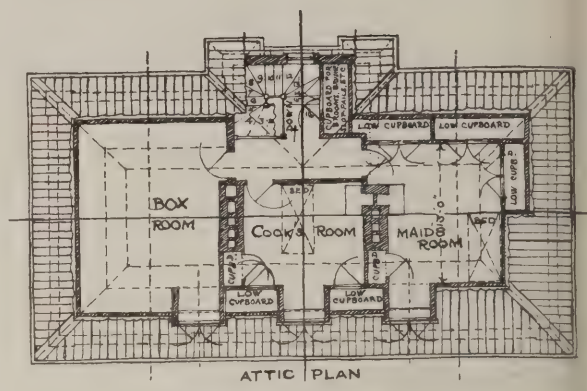
The large five-sided bay window at the end of the dining-room was designed to afford, when all the casements are open, the advantages of a loggia without the extra expense.

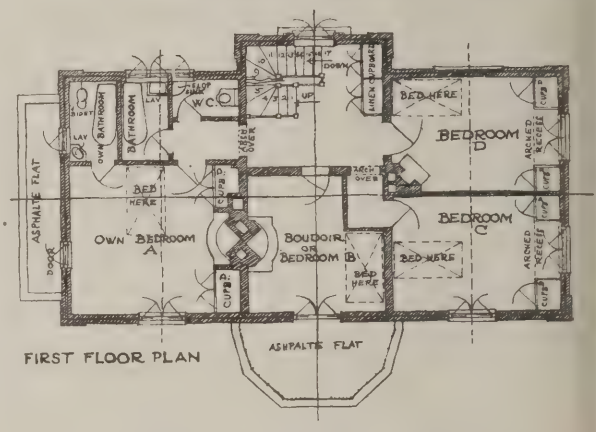
The dining-room and drawing-room fireplaces, of a type often found in Sweden, consist merely of three-centred chamfered plastered arches, but with, in this case, English dog-grates.

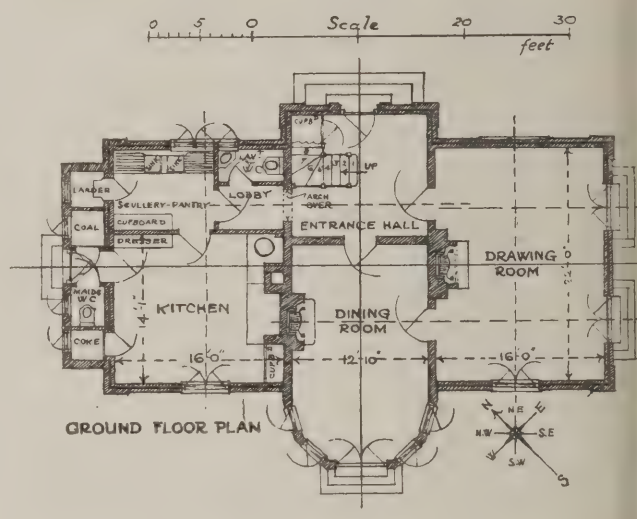
Upstairs in the two chief bedrooms the fireplaces (also by desire of the client) are even more characteristically Swedish, and not quite in harmony with the external appearance of the house, which the architect endeavoured to design in a somewhat French manner with a Swedish feeling—notably as regards the roof—but with the restraint, proportion, and symmetry of English eighteenth-century work.

Ample cupboard accommodation has been provided throughout. A feature of the two south-east bedrooms is an arched window recess, with deep built-in wardrobes on either side—another Swedish notion, and a very good one, for it allows the French windows to open without touching the dressing-table.

The builders were Messrs. J. Harris and Son, High Street, Woking. Heating engineers, Messrs. Benham and Sons, Ltd., London. Electrical engineers, Messrs. Locke and Soares, London.







VIEW FROM SOUTH.

VIEW FROM EAST.

Modern Domestic Architecture. 9.—"Malma," Pyrford, Surrey

Basil Oliver, F.R.I.B.A., Architect

In designing this delightful little house, the architect's aim was to secure something of the French manner plus a touch of Swedish character—notably as regards the roof—but with the restraint, proportion, and symmetry of English eighteenth-century work. In this aim he has been entirely successful, and his work accords perfectly with its rustic environment. Some particulars of the house, with further illustrations, are given on the opposite page

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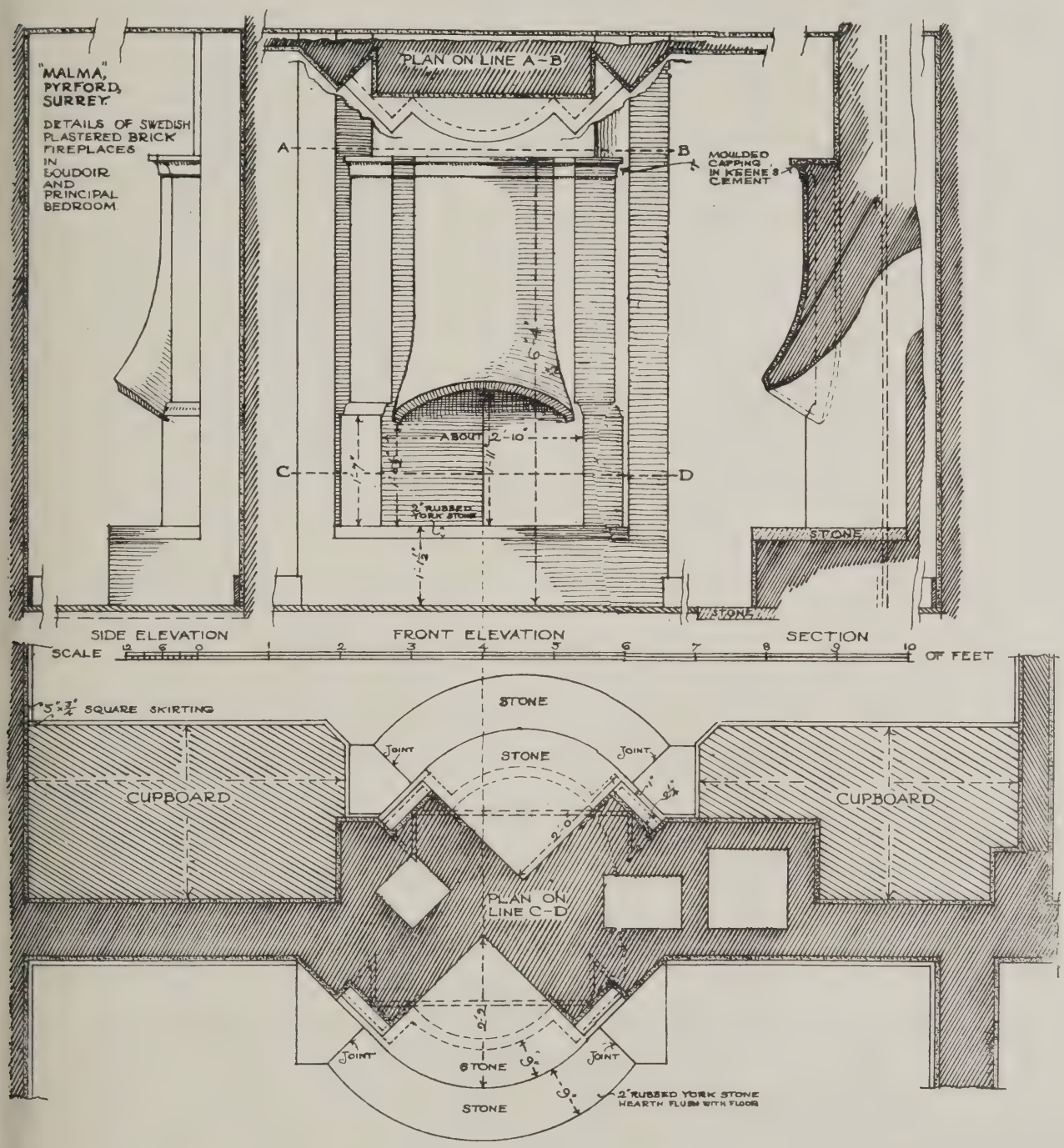
rchitects' Working Drawings. 9.—Fireplace in a Swedish Lady's House, "Malma," Pyrford, Surrey

Basil Oliver, F.R.I.B.A., Architect



This fireplace is characteristically Swedish in type, and was designed thus at the express wish of the architect's client, a Swedish lady. Its peculiar and not particularly economical construction is notable. Some particulars of the house are given on page 754.

Town-planning Schemes for Greater Paris

By ADRIAN BERRINGTON

In the recently decided town-planning competition for the Municipality of Paris, Mr. Adrian Berrington was among he successful candidates. He criticises the schemes, however, with strict impartiality, with admirable chivalry, and with somewhat of detachment, as an Englishman enjoying the hospitality of Frenchmen with whom he is in friendly rivalry. Further, he brings to his criticism the intimacy and zest of interest that only a competitor could feel. Although, as a rule, we should prefer that the critic of competition designs and awards should be himself hors concours, we feel that the present instance is exceptional and excusable.

THE competition instituted to provide the Municipality of Paris with ideas for the establishment of a great plan for the city and the outlying communes — now officially garded as one great community in so far as future velopment is concerned—was opened in August, 1919, d closed in the following January. The drawings were public exhibition for a month, and I spent many a long ur ferreting out from plan and report—many of these re over 100 pages, and one or two are more than 200 ges long—such notions as there are.

Let me first try to convey some idea of the magnitude the problem. In Paris itself, that is to say, the city closed by the fortifications of the earlier part of last ntury, some 20,000 acres, three million persons are owded—for living and working. Without, to distances rying according to the facilities for transport to Paris, e communes, many of them large and crowded towns emselves, which hold more than another million, whose ork ministers to the need of the city, or who go there ily as people go from the suburbs round large English wns. Till now this agglomeration has "just growed," d it is as Topsy-like as the many others which will cur to the English mind. Its circulatory system is lly inadequate, in the matter of speed and pressure, to e needs of its life. The body has outgrown the lungs, e flesh weighs heavily on the bones of a smaller opsy. One prefers Paris to remain as it is, perhaps; e would sooner it were what it was (date to taste); e fears, with examples on all sides, to think what it ght be. Hence the necessity of a plan.

In making the plan there are several things to be conlered, first separately and then in relation to the whole. here are docks and canals, concerning which consion of thought shows no sign of reaching its limits; ere is all the mighty matter of the railways—five big stems, not counting the ceintures; there is the question motor transport (it is a question, How many townnners have seriously studied the experiences of itain during the railway strike?), with which is interined the road system, in plan and in practice; then ere is the Metro., which in Paris has reached the rture-point; the tramways, magnificently built, badly anned; already outmoded—and the omnibus.

Bound up with canal, rail, and road are (or ought to) the various systems of market, warehouse, and distrition, for all these things have got to be reorganised. hen there are the policies of segregation of manufacre—of specialisation (by law or by plan, force, bitrary, or of self-interest) of areas, of what, in the rgon, are called industrial zones. Handy to these, it ay be, are the reservoirs of human labour, gaily called és-jardin, on so many plans, which is practice might rn out to be just a sort of barracks, or pen, or slum. eathing spaces, parks, and playing grounds are on all nds admitted to be necessary, though not every one ould put them on all hands. There are the radial, e annulaire, and the occasional systems of parks. ris draws great sustenance from her market gardens, hich are everywhere where houses are not—a tremenus industry, which must be protected. And so on.

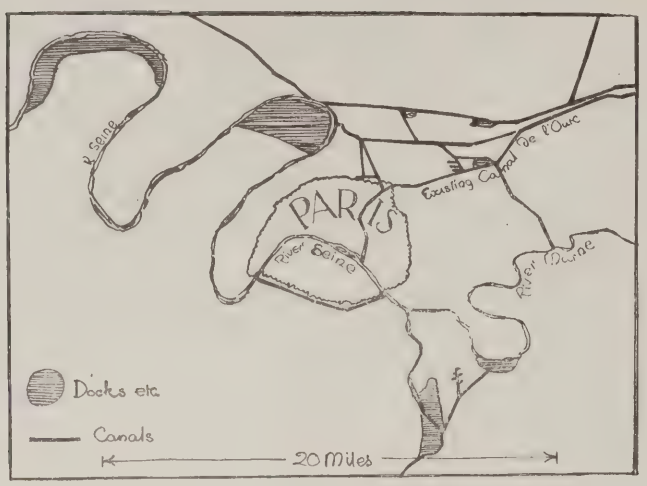
Building by-laws have perhaps to be modified as gards areas, fire prevention, sanitation, and hygiene. nancial measures, property taxation, land values, and ure have to be considered. Some hints as to ways d means and wherewithal have, or ought to be, suggested, since a plan for which one cannot pay is worse than one designed for brick where only stone is available. The various methods of herding folk for their own good, such as prisons, barracks, hospitals, asylums, schools, must be placed, since everyone is agreed that they would be better outside Paris itself (as they once were) than within.

Then on top of, or underneath, it all is the primary problem of finding places for people to live in. All the things mentioned may (and probably will) be postponed; but the provision of houses cannot be delayed. Of what avail a canal if one has no house? A town may—many do—exist without streets even, but not without houses. At present there are no spare houses or appartements in Paris. Everyone is in prison, not daring to leave his cell for fear that he may not find another. There is little room to build within the walls, for the regions without the existing means of communication are strained to their uttermost. Even were it not so, the difficulties, tediums, and delays, with a small but sure benefice at the end, of house building, attract no one in these days of preposterous profits and quick returns.

What is to be the solution of this question and all the others? What is the plan, strategy, and tactics of the whole manœuvre, whether the aim be a Paris international world-capital, or merely a reasonably well-contrived western European city? I have indicated some of the main headings of the problem put to competitors. It was realised that they could have neither time nor means to make a definite plan. Ideas were asked for. And it remains (I presume) for the Municipality, aided by such ideas as the competition has brought forth, to compile the great plan and act upon it. The Commission d'Etudes is already in play. May the Commission d'Action tread closely on its learned heels and get to work, especially with houses.

Let us turn to the competitive schemes, with warning duly given that my judgments are those of a competitor (I wonder how many non-competitors have looked at the problem all round; how many competitors even?), and of a comparatively disappointed competitor at that, for my partners (Messrs. L. Faure-Dujarric, and J. P. Chaurés) and I gained only one fourth and one third prize, and one *hors concours*—though this has been bought!—which barely cover our expenses. If I seem to be unfair let it be ascribed to a natural mortification. Still, I see with English eyes—eyes which grow more English than ever in Paris, and criticise with continual, if unconscious, reference to standards which must be familiar to my readers.

The scheme which gained the first place, and for erudition and complexity deserved it, is by Messrs. Jaussely, Expert, and Sollier, under the direction of M. Jaussely, well known as a leading "Urbaniste" (that is what the unfortunate town-planner is called in Paris), who has been engaged on schemes in the devastated areas—the region of Chaulnes, for example. He takes the view that Paris is, or should be, a world-centre of commerce and an international port. Accordingly, he proposes the deepening of the Seine, a very curly and consequently shoaly river, and the cutting of more canals than I have space to enumerate, linking up existing waterways in such a fashion that barges may find their way from one edge of France to the other via Paris. Enormous dock and quay accommodation (we thought we were pretty bold in this direction, but find we are



1. M. JAUSSELY'S DOCKS AND CANALS.

not anywhere in comparison) is suggested north of the forest of St. Germains along the river, where at present it is all Daubigny and late Corot, and again on the flat land all round Gennevillers. By canals north and east of Paris these ports link up with others at Bonneuil and Villeneuve to the south-east. An appropriate quantity of railway line is mixed in the docks, and both radial and annular (ceinture) lines, within a very considerable area, taking in Chateau Thierry, for instance, are doubled, quadrupled, and in some cases sextupled, not by the addition of new tracks along existing routes, but by the building of new lines altogether, and the linking up of existing old ones. M. Jaussely definitely planks his stake on railways as against motor-lorries and their variants, even for "in-traffic," and the complex transport requirements of a great "agglomeration urbaine." (I think he is wrong there.) "Zones industrielles" find themselves near the docks and canals, which is as it should be, and "cités-jardin" are near the zones. Sewage farms ,aviation grounds, hospitals, schools, etc., are all variously attended to, which is as well, because the jury judged on points rather than on general conception. The "occasional" or dot-'em-all-over-the-place method is adopted for parks and open spaces.

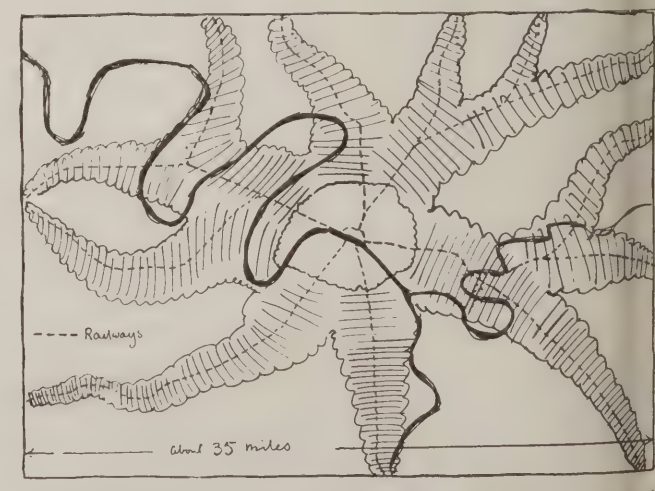
Looking at the conception as a whole, I see an enormous complexity, such as, for instance, Manchester, Salford, Bolton, Bowden, and Stockport cannot boast, of the means of commerce, trade, and manufacture. The one decorative item even is a ground for Palais d'Exposition Universelle. If one could ever imagine the whole concern as executed and functioning, it is as a machine which would occupy, according to existing proportions, something like the whole population of France that one sees it. The railway system alone, excellent as it is in many ways, especially, I think, the treatment of the problem of cross traffic in Paris, is of a monumental complexity which would tax the guardian angel of Bradshaw himself, and prove in effect unworkable. Simplicity is necessary for high speed and smooth working. In M. Jaussely's scheme the motor-lorry would quickly come to its own, and the need of new roads be demonstrated. Also I think it is not enough just to colour parts of the plan yellow and write cité-jardin. The report, which is learned, documenté, quoting many authorities, does nothing to mitigate the impression gained (after five minutes of stunned perplexity) on first seeing the plan—namely, that ports, zones, sewage farms, parks everything had been placed and the interstices filled in with the magic formula—*cité-jardin*.

It *is* a magic formula for the French urbaniste. In the design placed second one finds it even more to the fore, and the effect on the beholder is, if anything, rather less convincing. The authors (MM. Agache, Auburtin, Parenty, and Redont) give a sample of what they regard as the right sort of thing to spread all over the place, on a large-scale drawing, which looks like an effective poster (as do all the drawings of this set)—one of those posters which invite you to buy building lots at some budding spot by the seaside. In this case it is on the grand axis (E.S.E. to W.N.W.) of Paris, i.e., a continuation of the Avenue de la Grande Armée. The Avenue terminates at an enormous ($2\frac{1}{2}$ kilometres long by $1\frac{1}{2}$ wide!) Stadium for Olympic games. The suburbanite (Banlieusard—it is a term of commiseration) descends from his high speed electric train, and takes one or other of the roads straight or curvilinear, which radiate from it, and so makes his way home through an area of what we would call ordinary and unenlightened and inconvenient suburban estate development.

In practice, I think, this not very lofty suburban idea would not pan out, because the Parisian would find it intolerably dull, and the railway would, in consequence discover that it did not provide a sufficiency of passengers. So that, despite good intentions, bolstered up with bye-laws as to alignment and servitudes as to proportion of ground built over, the eventual result would probably resemble the admittedly displeasing urbanised parts of the banlieue as existing. The authors are undeniably right in this—that what is required to enable the unoccupied portions of the banlieue to function as dormitories for Paris is simply a tolerable system of communication with them. Everyone knows that. Everyone knows, too, that something more attractive than a suburb (as it works out in practice here) is required to induce the Parisian to live outside Paris. Otherwise some bright capitalist would have got a Bill through, bought options on land, built a line, and done the trick long ago. No. That is not enough, and that fundamentally is just about all the authors propose.

Not that they forget docks and so on. And they make great play with *stades*, *pistes* and *terrains de jeu* without, one feels, knowing much about it. Besides the great Stadium already mentioned there is an enormous centre sportif to the south of Villejuif (south of Paris), in which one may do all sorts of things, including "cross golf," "hippism" and "yachting" (voile et moteur), in a small lake shaped like a tadpole, with a long, thin tail and having two little islands for eyes.

I am afraid my treatment of this conception has not been altogether cordial. The fact is, I do not understand the award, whereas I think I do understand the others. On reflection the idea occurs to me that the jury dimly felt that, after all, when, in the long run, all the bright notions will have cancelled each other out, what will actually happen will be not unlike the banal project I have attempted to describe. The drawings, which are of the hastiest kind (maximum effect, minimum effort) render a precise determination of the authors' intention



2. THE TENTACULAR CONCEPTION (MM. AGACHE, AUBURTIN, PARENTY, AND REDONT) SHOWING AREAS SERVED BY PROPOSED NEW QUADRUPLE ELECTRIC LINES.

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Town Planning. 4.— Bristol Corporation's Proposed Housing Schemes.

L. S. Mackenzie, City Engineer. C. F. W. Dening, F.R.I.B.A., Architect.

1.—Sea Mills Layout.

3.—Bedminster Layout.

4.—Knowle Layout.

Bristol Corporation is contemplating a number of large housing schemes round about the city, four of which are shown in the illustrations above. The Sea Mills Site (No. 1) is 187 acres in area, and has been laid out to give room for 1,583 dwellings and 14.67 acres of open spaces. There are also sites reserved for churches and schools. The Horfield Site (No. 2) is on the right-hand side of the road to Filton. The plan provides for a small recreation ground and an open space and several areas are left free from houses for possible use for public buildings or schools. The Horfield Site is 75 acres in extent, has room for 729 dwellings, and ground allotted as open spaces amounts to seven acres. The St. John's Lane Site, Bedminster (No. 3), provides for the erection of 159 houses on an area of about 14½ acres. It was not found necessary to arrange for a recreation ground, as Victoria Park is so near, and this accounts for the comparatively smaller area of open spaces than in the case of the other sites. The site for the Knowle Garden Suburb (No. 4), is rather over 128 acres in extent; it gives room for 1,012 dwellings, and for a number of other buildings, while between eleven and twelve acres are left as open spaces.

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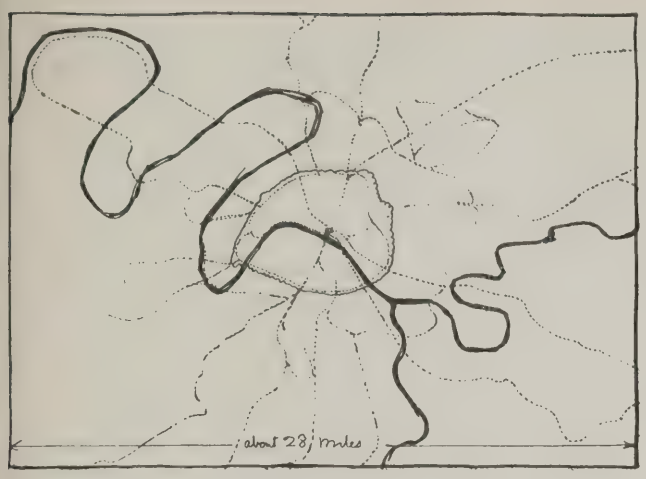


3. RAILWAYS AND ROADS OF MM. MOLINIÉ, NICOD, AND PONTHIER.

impossible. But I think I am right in saying that the main principle is radial routes and railways thrust out into the country; road, rail, and country adjacent being under one control and budget is the central theme of the conception.

The Third Prize design is (to my mind) preferable. The authors, MM. Molinié, Nicod, and Ponthier, take the view that what they have to do is to plan roads and railways out into the banlieue, serving every part of it, and do so accordingly. But they do it with a sense of human proportion, show it by means of very able drawings, which I find attractive. They employ wooded reservations with some knowledge of their efficacy in restraining the human hand (of land speculators) and their metro-extensions curve out in great loops into the country in a way which, assuming that the central metro-system is very much improved, would render the banlieue possible for Parisians. A curious feature is the way in which they take each little village and plan roads round it as though they expected that the new population would cluster on that nucleus. Happily, nothing of the kind would come to pass. Their roads and rails avoid the villages, and the new settlements (cités-jardins) would group themselves round the stations rather. M. Honoré, writing in "L'Illustration" of May 1, remarks that "Le projet semble une adaptation hereuse du principe anglais, que nous trouverons plus strictement suivi par M. Berrington et qui consiste a créer, relativement loin de la capitale une couronne de villes satellites." And later one reads that I "applique ainsi a Paris le système auquel on doit la fameuse campagne de Londres." It is well to see ourselves as others see us, however mixed our feelings may be. Those who inhabit the glut of half-digested villages which is Greater London, may console themselves with the thought that there are others who envy them.

(*To be concluded.*)

An Allegory of Architecture

THROUGH the courtesy of a contributor we are enabled to reproduce an amusing pictorial satire on architecture in the nineteenth century, which might be used to illustrate any projected work on the fashionable disorders of that interesting period.

In this cartoon architecture is represented as a bashful spinster of nineteen summers standing upon a quasi-Ionic capital, having a deep canalis formed in classic taste by her maternal grandfather. The damsel's boots are purely products of industry. Her nether limbs have the symmetry beloved by George Stephenson, and retire modestly within a spacious crinoline purchased without doubt from that fashionable modiste, Sir George Paxton. The young lady stands in a queenly attitude. She is proud of the attention she is receiving from architects, critics, and painters. One enthusiast is attempting to unravel her tangled pigtail, while a romantic Don Quixote toboggans from the precipitous surface of the bombazeen. The young lady's attire may not appear beautiful; it is frankly experimental and truly ingenuous.

Let us inquire into the activities of some other of the enthusiasts depicted so charmingly. There is the stilted professor who, realising the limitations of this lady who has not grown up, is content to study the capital on which she stands. He does not offer to help the adventurer who has leapt into space with a few trophies; neither does he appear to sympathise with the clown who is occupied cleaning the industrial boots. Harlequin, after much labour, has removed the lady's hat, which he holds by the ribbons preparatory to leaping into its recesses, and thus committing hari-kari. Thus perish all stunters. The troubadour is singing of Italy. The negro-Greek is admiring the lady's waistband. We notice the ecclesiastical commissioner in the foreground receiving corn rents. But stay, who are those gentlemen-craftsmen in mediæval splendour making their way over the right hand volute? They are the arty-crafty young men who have discovered a short cut to position. It will be noticed, too, that the diminutive female with the shears indicates the feminine interest in the masculine art. The practice of architecture has a sparkle of comedy in it, and this in spite of the fact that we all take it seriously.

The nineteenth century demanded that architecture should be a living and vital force; hence the making of a lay figure and the embellishing of the stiff limbs with fashionable clothes. We are interested in the swarms of lilliputians busy discussing facts about this figure. They all mean well, and they all desire to add their quota to the edifice. Would it not be better for them to attach ropes to the lady's person, drag her from her capital, and then to busy themselves fashioning an entablature to the order?

New Street Chambers, Birmingham

These premises (see illustration on page 767) were erected just before the war on a site previously occupied by the old galleries of the Royal Birmingham Society of Artists, the façade of which, as will be seen, was adorned with a fine Corinthian portico, designed by Mr. Rickman, and formed a notable feature in New Street. An effort was made to induce the Corporation to re-erect the portico as a gateway to one of the public parks, but, unfortunately, the project fell through. The new premises include shops, facing New Street, and an entrance to a new gallery for the Society of Artists, which is constructed above the rear portion of shops. The upper premises are occupied by the Three Counties (Ladies') Club and professional offices, part being occupied by the architects of the building, Messrs. Crouch, Butler, and Savage.

"Kodak" photo by courtesy of A. W. Bikker, Esq.

ROYAL BIRMINGHAM SOCIETY OF ARTISTS BUILDING (NOW DEMOLISHED).

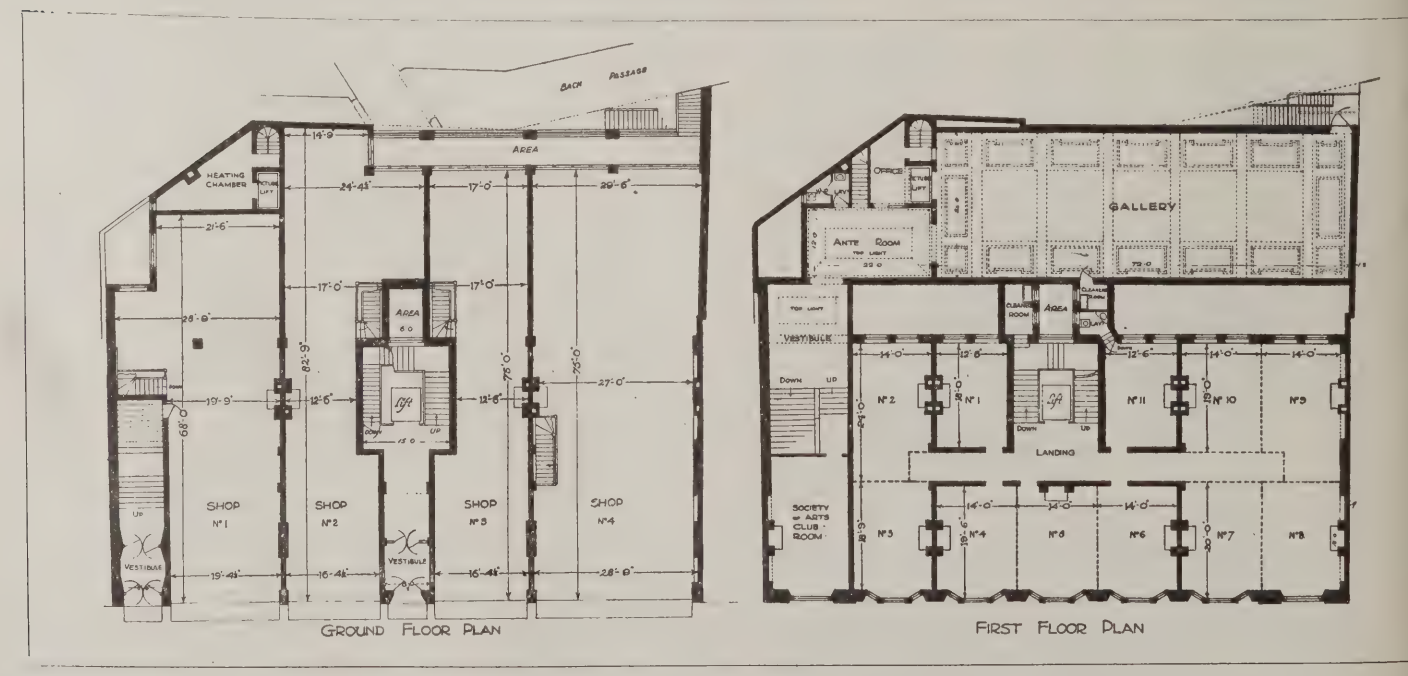
The "Daily Mail" Ideal Village

The first sod of the "Ideal Village" which the "Daily Mail" propose to erect at Welwyn (Herts) was turned on Wednesday last week by Viscount Hampden, Lord-Lieutenant of Hertfordshire, "as representative of the county." The site is a portion of the land acquired by the Welwyn Garden City, Ltd., for the building of an industrial "satellite" town. From this company the newspaper mentioned has leased from fifty to one hundred acres of land.

Mr. Thomas Marlowe, speaking at the lunch which was given to about one hundred guests, explained that the idea of building an ideal village originated in the Ideal Homes Exhibition, which was held at Olympia some months ago. It was the answer to the demand that the exhibition should become of a permanent character.

With this object, houses were to be built in brick, concrete, ferro-concrete, asbestos, wood, slate, pisé-de-terre, and other materials. Already fifteen firms had decided to put up single houses, or blocks of houses. The village would be made up in the main of middle-class houses of the type selling at £500 to £750 in pre-war days.

Mr. Raymond Unwin, F.R.I.B.A., who with his partner laid out the Hampstead Garden Suburb, and the Letchworth Garden City, is to supervise the building scheme in order to preserve the congruity of the village.



NEW STREET CHAMBERS, BIRMINGHAM. CROUCH, BUTLER, AND SAVAGE, FF.R.I.B.A., ARCHITECTS.

Current Architecture. 23.—New Street Chambers, Birmingham

Crouch, Butler, and Savage, FF.R.I.B.A., Architects

These premises were erected shortly before the war on a site previously occupied by the old galleries of the Royal Birmingham Society of Artists, the façade of which is illustrated on the opposite page. The principal accommodation comprises shops, an entrance to a new gallery for the Society of Artists, and professional offices. Further particulars and plans of the building are given opposite.

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Correspondence

The Proposed Building Guild for London

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of June 2, in an article on the proposed building guild for London, you question the success of the enterprise on the ground that it challenges so many vested interests. But is this so? The success of the Guild movement is based upon a very simple calculation that experience is proving to be true; namely, that the present individualist-capitalist régime will pass by default. The Guilds have made their appearance in the building industry because private enterprise has failed to solve the housing problem. We calculate that a corresponding deadlock will eventually be reached in every department of industry—that a creeping paralysis is overtaking the present system, producing a state of things that, left to itself, would issue in the growth of anarchy and a return to barbarism. We calculate that this because we see such a paralysis is the logical end of the present system of vested funds, based upon the assumption that there is no limit to the possibilities of compound interest. The fallacy of this assumption is apparent when we remember the famous arithmetical calculation that a farthing put out to 5 per cent. compound interest in the first day of the Christian era would by now amount to several gold globes as large as the earth. The Guilds will arrive, not because they will overthrow capitalism, but because capitalism will become unworkable. Let all believers in private enterprise take heart. They have nothing to fear from us. What they have to fear is their own system of invested funds, which loads industry with an ever-increasing burden of overhead charges. It is the investors who have got the stranglehold on industry, not the Guilds.

ARTHUR J. PENTY.

The "Journal" and its Articles

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I really must compliment you on the excellence of your Journal, inasmuch as it deals with things that matter and are of great importance to the architectural profession generally. Your various articles in the issue for June 2 are all remarkably interesting. Take "Notes and Comments," "The Week's News," "Jean-Louis Pascal: An Appreciation," "Architectural Causerie: On Criticism" all very instructive and delightful reading; and its special features, the signed articles by your contributors, "The Housing Subsidy Injustice" by Mr. Crossley Davies, the second article on "Architectural Education and Registration," by Mr. Lionel B. Budden, M.A., A.R.I.B.A., and the fourth article on "Federated Builders' Code," by Mr. T. Sumner Smith, F.Q.S.A., F.I.A. These articles are in themselves an education and serve a very useful purpose; they put us in touch with the thoughts of those in actual practice: a thing sadly lacking in the profession, but urgently needed. One is made doubly conscious of this after reading Mr. Budden's and Mr. Smith's articles, as both plead for a greater communion and unity amongst the profession, and each approaches these pleas from a different standpoint, and that makes them the more pointed.

Mr. Budden appeals for education and registration, but Mr. Smith thinks these in themselves are not sufficient; he would like to see a federated profession.

There is much to be said in favour of Mr. Smith's point of view, and no doubt we should achieve Mr. Budden's object the quicker by adopting a federation; besides which, when we have registration, as in the medical profession, we should still need a federation to protect our rights. That is what the medical profession had to do to protect its rights when the Workmen's Health Insurance Act was before Parliament. Mr. Budden admits that the proposed Act for registration is to protect the interests of the public: if that is so, there is no point of gain to ourselves. It rather goes to prove that we are asking the public to protect themselves against us. But, on the other hand, Mr. Smith has given us an excellent illustration in the new building code of the need and the urgency of a professional federation.

Mr. Budden and Mr. Smith imply that our forces are scattered and lacking in unity. Possibly prejudice and want of interest will have to be overcome with the powers that be before we attain that unity which I claim is essential to the profession.

PROVINCIAL ARCHITECT.

Architectural Education and Schools of Art

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Although in general agreement with Mr. Budden as to the necessity of regularising architectural education and raising its standard as high as possible, there is one point mentioned by him to which I feel some reference should be made. In writing of alternatives to the programme of reform outlined in his article he mentions architectural classes held in schools of art, and certainly gives the impression that he does not consider them to be "satisfactory instruments of professional training."

In many cases there is no doubt ground for criticism, but in some of the larger schools of art in the country departments of architecture have been formed having, as well as part-time courses of study, full-time courses which supply a very serious want in providing good facilities for thorough training for the architectural profession, and which, in addition, give opportunities for architectural students to work in conjunction with students studying painting, sculpture, and the decorative arts, an arrangement which is of mutual benefit, as may easily be proved.

To mention provincial schools only, both Leeds and Leicester Schools of Art have had full-time Departments of Architecture for some considerable time, and a similar one has recently been established at the Liverpool School of Art.

The Department of Architecture at the Leeds School of Art was placed on the list of schools recognised by the Board of Architectural Education in 1915 after inspection and approval both of the curriculum of the school and the work of the students, and I think this proves that it is possible for an architectural department of a school of art to be of a sufficiently high standard to be of practical value in professional training, and, even if not of academic rank, to be capable of taking an important part in the work of raising the standard of professional education to a higher level of attainment throughout the country, for the Board of Architectural Education does not grant recognition to a school without due cause.

GEORGE J. COOMBS,
Head of Department of Architecture,
Leeds School of Art.

National Health Insurance Act

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—For the information of architects and surveyors, perhaps you will be good enough to allow me to call attention to the provisions of the 1920 National Health Insurance Act, under which employers and employed are required to pay an additional contribution weekly.

Contributions increased from 7d. to 10d. for men (employer pays 5d., man 5d.). Contributions increased from 6d. to 9d. for women (employer pays 5d., woman 4d.). Sickness benefit increased from 10s. to 15s. a week for men. Sickness benefit increased from 7s. 6d. to 12s. a week for women. Disablement benefit increased from 5s. to 7s. 6d. a week for men and women. Maternity benefit increased from 30s. to £2 a week.

This Act comes into force on July 5, 1920.

F. R. YERBURY, Secretary.
Architects' and Surveyors' Approved Society.

The A.A.: Branch Schools in Provincial Towns

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In the second article of the recent interesting contribution to your Journal by Mr. Lionel Budden, and with reference to the suggested Ministry of Fine Arts, the following paragraph occurs: "Would it not be possible to create a new school of architecture in London on the lines of the Ecole des Beaux-Arts, and under the ægis of the Ministry? Or if not to create a new school, to develop the largest existing non-academic school—the Architectural Association—under the same auspices? Such a school would include within its organisation the ateliers affiliated to the Royal Academy, and might extend its influence to the provinces by establishing branch schools in the larger towns."

A similar plan occurred to me early in 1919, shortly after I had been elected President of the newly-formed Students' Club of the Bristol Society of Architects.

Having had first-hand experience of the Architectural Association schools, I strongly advised affiliation with the Architectural Association with the object of securing the great advantages of their experience and help both in starting a branch school of architecture and in preparing the curriculum. The Students' Club were unanimous in their support of this proposal, and the President and Council of the Architectural Association received our advances in the kindest and most practical way, with the result that all difficulties have been happily overcome and a school is to be started in the autumn.

Negotiations with the Royal West of England Academy at Bristol are in progress, and in all probability the new school will be housed in the Academy buildings.

This short account of the inception of the school at Bristol will, I think, serve to show that the "proposal" outlined in Mr. Budden's paragraph quoted above, and described by him as "less obviously unintelligent" than his suggestion of handing architectural education over to the Universities, is not merely a proposal, but a live policy.

When he states, in referring to the Beaux-Arts schools, that "it should be obvious that an attempt to reproduce anything like such a school in, so to speak, a vacuum, is to attempt the impossible," he does not do justice to the Architectural Association schools—there is nothing vacuous about the Architectural Association, and it has a large and ever-increasing number of "old boys" who are grateful for the help, encouragement, and comradeship they once enjoyed there, and who are proud of its records and traditions, though they may not be as long and illustrious as those of the Beaux-Arts schools.

As I have attempted to show, these "old boys" can and do find practical expression for their enthusiasm by helping to found branches of the A.A. system in the provinces where the "status" (that Mr. Budden seems to find indispensable) can be derived from association with the provincial branch of the Royal Academy, where the up-to-date educational system can be provided by the Architectural Association and the funds and personal enthusiasm by the local Allied Society and its junior members.

ARNOLD SILCOCK, A.R.I.B.A.

Bath.

Building Guilds

Agreement with Ministry of Health

The Ministry of Health state:

The attitude of the Ministry of Health towards the building guild principle has from the start been one of sympathy; but several difficulties of detail presented themselves for solution before the Ministry could feel fully justified in approving it. The guilds' position in reference to the purchase of materials, for example, was not clearly defined. The Co-operative Wholesale Society, however, have now agreed to give the guilds the assistance of their extensive organisation, and it is hoped that a satisfactory arrangement may be reached. There was some difficulty also as to the form of remuneration to be received by the guilds for their work. At first they adopted the proposal of remuneration by a simple percentage on the cost of the work done, not fully realising certain disadvantages of this method, which are not removed by the fact that the guilds, while proposing to confer on their members the benefit of continuous employment and payment, do not intend any distribution in the nature of bonus or profit. Under such a system of simple percentage payment on cost it might easily happen in connection with a scheme well and economically managed that there would be an inadequate fund for this purpose; and that in another scheme, which was less carefully conducted, with consequent high costs, the fund was more than sufficient. Both results would be unsatisfactory. The Ministry desired that the amount which was to go as remuneration or extra benefit to labour should be a fixed sum per house, a plan which would secure that the benefit would be at least a little in favour of the well-managed, economical schemes.

The portion of the percentage which under the guild proposal was allotted to cover costs of management, plant, insurance, and other overhead charges, and any surplus which by the rules of the guild is not to be distributed in benefits, but is to be used solely to improve the plant and services of the guild, is not subject to the same objection, and the Ministry are willing to accept a percentage basis for this for the present, though experience may show some simpler way of dealing with this also. The question of obtaining from the guilds some definite estimate of costs and some suitable guarantee, so far as circumstances now permit, that the work would be carried out to estimate also needed settlement.

Several conferences have recently been held between representatives of the guilds and officers of the Ministry of Health with a view to arriving at a satisfactory working basis.

The promoters of the Manchester organisation, on learning the Ministry's views, proved quite ready to agree to certain modifications of their proposals. An agreement has now been reached, and it is of importance as illustrating principles which may prove capable of more extended application.

The guild have agreed to give a definite estimate of cost for each type of house. This estimate must be regarded as reasonable by both the parties concerned—the guild and the local authority for whom they build—and must be approved by the Ministry. The guild's remuneration will be by a lump sum of £40 per house—to provide for a full-time week (regardless of weather) for those employed on the contract and for other purposes of the guild. A further allowance of 6 per cent. on the prime cost of the house will be made to cover the cost of plant and other overhead charges, such as salaries of buyers, supervisors, and others who are not wholly employed on the building site.

In the event of the actual cost of a house proving less than the estimated costs, the actual cost only, plus the £40 and the 6 per cent. overhead charges, will be paid by the local authority.

The guild recognise and agree that in any case the 6 per cent. for overhead charges should not be paid on any increase in the cost of materials taking place during the progress of the work, although for the purpose of determining whether the estimate has been exceeded or not, fluctuations in the standard rates of labour and prices of materials will be allowed for.

If the actual cost should prove to be more than the estimated cost, after the usual allowance for the fluctuation in wages, rates, and prices, the guild will receive the £40 as above, but the 6 per cent will not be payable on the amount of the extra cost.

The agreement provides also that the Co-operative Wholesale Society may be associated in the contract for the purchase of materials. The contract must include a break clause, allowing the contract to be broken after three months if the cost should exceed the estimate by more than any increase that has occurred in the meantime in the rates of wages and in the standard cost of materials. The Co-operative Wholesale Society, on being satisfied with the contract, will insure the local authority against loss under the contract for an insurance premium of one-eighth per cent.—2s. 6d. per £100. The guild are in agreement with the Ministry that a proper costing system shall be adopted.

The Regulation of Architectural Competitions

We have received the following communication from the Secretary of the R.I.B.A.:

The Council of the Royal Institute of British Architects urges the co-operation of all architects, Members of the Institute and the Allied Societies, and others in its endeavours to secure satisfactory conditions for architectural competitions. The Institute's Regulations for Competitions have been drawn up after careful consideration by the Council and the Competitions Committee. All Members of the Institute and the Allied Societies are bound by them, and it is only by their strict observance that the best results for promoters and the fair treatment of competing architects can be assured. These regulations are printed in the Kalendar and also in pamphlet form. Copies of the pamphlet may be obtained from the Secretary of the R.I.B.A., and it is the duty of all members competing to be familiar with them.

Only when all other means have failed does the Competitions Committee request the Council to bar a competition, and it is often able, when put into touch with the promoters at an early stage, to bring about the amendment of unsatisfactory conditions; but at present no system can be arranged by which the conditions of all competitions shall automatically be presented to the Committee for review. The Committee must therefore rely largely upon intelligence given by members who, having applied for copies of conditions, find them not to accord with the Regulations. Early intervention is essential to success. Members and others are requested to lose no time in sending copies of such conditions to the Hon. Secretary of the Competitions Committee.

The Council make the following suggestions for the improvement of architectural competitions:

1. When applying for the conditions intending competitors should state that unless the essential clauses of the R.I.B.A. conditions are embodied therein they will be unable to compete.

2. On receipt of the conditions they should compare them with the Regulations and note any discrepancies.

3. If any clauses are unsatisfactory they should at once communicate with the Hon. Secretary of the Competitions Committee; they should also return the condition

ithout delay to the promoters, pointing ut in what respects they are unsatisfac- ory, and intimate that if they are amended o accord with the Institute Regulations hey will be pleased to reconsider their de- ision not to compete.

In some cases it may be desirable, when becomes known that a competition is roposed, that architects in the neigh- ourhood should ascertain whether the romoters know of the Institute Regula- ons, and, if not, should provide them with copy.

The Council remind members that they ay neither assess nor take part in com- etitions which are not in exact accordance ith the Regulations, even if they have ot seen any notice issued by the Insti- ute. At the same time it invites all archi- ects, non-members as well as Members of e Institute, to co-operate in carrying out ese suggestions. Much has already een done; only by constant vigilance and mely concerted action will the respect of e public be secured and the highest aims f architecture attained.

Enquiries Answered

Santo Crimp's Formula.

"DRAIN FLOW" writes: "Please inform e where I can obtain Santo Crimp's ormula for drainage. I believe it is pub- shed in diagram form to save calcu- ting."

—There is a reference to Santo Crimp's ormula (not, however, diagrammatic) in Practical Sanitary Engineering," by rancis Wood, M.Inst.C.E., F.G.S., pub- shed by Charles Griffin and Co., Exeter treet, Strand, W.C.2.

Manufacture of Hand-Made Bricks.

"REX" writes: "On a site for works elonging to one of our clients, clay to a onsiderable depth has been found, and it proposed, probably next year, to make and-made bricks. Will you kindly in- orm us whether clay which is excavated ow will be of any use if it is dumped upon portion of the land and left until required, whether any special method of protec- on should be taken? At the same time, ill you give a brief outline of the various ocesses of making?"

—We would suggest that before taking ny active steps it would be wise to make ite sure that the clay is quite suitable for is purpose. Clay is admittedly a com- ex material and a mere superficial amination is by no means sufficient. It necessary to have the materials in dif- rent parts of the clay bed thoroughly ex- nined by a really reliable expert in order at money may not be wasted in working unsuitable clay. It is very desirable at a clay should be stored for a consider- le time before using. This process is rmed "weathering," and it has the effect disintegrating the clay, producing a ore plastic and workable mass, and secur- g an even distribution of moisture roughout the clay. In this way the pre- ninary cost of breaking up the clay for e in the machine is considerably reduced. inter is generally the most suitable time this weathering, as the freezing and awing of the clay mass aids very largely disintegrating it. There are, however, tain precautions to be taken which could ly be decided by the examination of the e by an expert. The methods of manu- cture could hardly be described in a few rds, but a useful text-book on this sub- t is "Modern Brickmaking," by Mr. B. Searle, the second edition of which, understand, is at present in the press.

Societies and Institutions

Ulster Architects' General Meeting.

A general meeting of the Ulster Society of Architects was held in the Melville Hotel, Derry, on Thursday, May 27, on the arrival of the Belfast train, by which a number of the Belfast members travelled North. Mr. Henry, M.S.A. (President) occupied the chair. Business connected with the profession both in Belfast and Derry was transacted, and the members adjourned to the dining-room of the hotel for lunch as the guests of the Derry Committee, being joined by representatives of the Derry Master Builders' Association. Mr. Buchanan, the chairman of the local committee, acted as host, and in propos- ing the health of the visitors expressed the hope that this would be the forerunner of many future annual reunions of the Society in the Northern city. The Presi- dent and Hon. Secretary replied on behalf of the visitors, and extended to the Derry members a cordial invitation to visit Bel- fast at an early date. Subsequently visits were paid to the Guild Hall, The Walls, Cathedral, and the Long Tower Chapel, the architect in charge of each building acting as guide and explaining the various features of interest. A return being made to the hotel, afternoon tea was partaken of, and the visitors left by the five o'clock p.m. train Midland Railway, having en- joyed a very interesting and instructive day.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended June 5 numbered ninety-nine. The total number of schemes submitted by local authorities and public utility societies is now 10,292, comprising about 70,000 acres. The schemes approved now number 6,560 and comprise about 49,250 acres.

One hundred and seventeen lay-out schemes were submitted and eighty ap- proved during the week, bringing the total number of lay-outs submitted to 4,623, and the number approved to 4,045.

House plans, representing 2,110 houses, were submitted during the week, and plans for 2,667 houses approved. The total number of houses represented in all the plans now submitted is 204,963, and in the plans approved 192,167.

During the week tenders were submitted for 5,645 houses. Tenders for 3,905 were approved, bringing the total number of houses in tenders submitted to 125,283, and in tenders approved to 109,505.

R.I.B.A. Prizes and Studentships

The R.I.B.A. call attention in a pro- gramme just issued whereby certain prizes are now offered in alternate years. The list of prizes and studentships for 1921 and 1922 is as follows:

1921, Royal Institute silver medal and 25 guineas, for essays, every year; 1921, Royal Institute silver medal and £50, for measured drawings, every alternate year; 1922, Soane medallion for design, and £150 for Continental travel and study of ancient buildings abroad, every alternate year; 1922, Pugin Travelling Studentship: Silver medal and £75 for travel in Great Britain and Ireland, and study of mediæval buildings, every alternate year; 1921, Godwin Bursary and Wimperis Bequest: Silver medal and £130 for travel outside Great Britain and Ireland, and study of modern architecture abroad, every alternate year; 1921, Owen Jones Trave- ling Studentship: Certificate and £100 for the study of ornament and colour decora- tion, every year; 1921, Tite Prize: Certifi- cate for design according to the methods of Palladio, Vignola, Wren, or Chambers; and £100 for travel and study in Italy, every alternate year; 1921, Henry Saxon Snell Prize and £50, every third year; 1921, Henry Jarvis Travelling Student- ship: £250 every year; 1921, Grissell gold medal and £50 for design and construc- tion, every year; 1921, Arthur Cates Prize: £30, every year; 1921, Ashpitel Prize: £10 (in books), every year. Candi- dates who under the age limit were eligible for the competitions in 1916, which were postponed owing to the war, are eligible for the competitions for 1921. This con- cession applies to all candidates irrespec- tive of military service.

Competition News

Goole War Memorial.

Members of the Society of Architects are requested not to take part in the above-named competition without first ascertaining from the Society that the con- ditions have been approved by the Council.

Gatley and Gravesend War Memorials.

Members and Licentiates of the R.I.B.A. must not take part in the above competitions, because the conditions are not in accordance with the published Regulations of the Royal Institute for architectural competitions.

Trade and Craft

"Decolite" Fire-Resisting Flooring.

Following are extracts from a report on "Decolite" flooring recently issued by the Institute of Hygiene:

Floors deserve and require special atten- tion, as they not only represent a large area but they are the chief collectors of dust and dirt. Plank floors, though the most common in use, are far from hygienic, as dirt and micro-organisms har- bour in inaccessible cracks and crevices, particularly where floor and skirting- boards meet. Messrs. Bell's Asbestos Co., Ltd., however, have recently submitted to us samples of their "Decolite" fire-resist- ing flooring material, which is a decided advance upon wood or cement floors, whether for houses, institutions, factories, or other buildings. "Decolite" floors are made from a quick-drying composition which gives a hard, non-slippery surface, free from joints and cracks. It is warmer and more resilient than concrete and similar materials, is fire-resisting and waterproof, and has the appear- ance of cork linoleum. Moreover, under actual wearing conditions the friction of treading does not grind any surface dust from "Decolite." "Decolite" can be used for dados as well as for floors, and, therefore, all angles and corners between walls and floor can be obviated—with con- sequent increase of facilities for dusting and thorough cleaning. We are satisfied that "Decolite" is of decided hygienic and economic advantage, and it may con- fidently be recommended for flooring pur- poses as well as for the modern improve- ment of our homes.

The Week's News

(Continued from page 750)

Timber and Thatch Cottages.

Essex Council is to build timber and thatch cottages at £575 each for small holders.

Concrete Houses for Manchester.

Five hundred houses, two storeys high, and constructed of reinforced concrete slabs, are to be erected.

Old Hill War Memorial.

The Old Hill and Cradley Heath War Memorial Committee have approved the erection of a memorial hall at Reddall Hill at a cost of £15,000.

Printing Trades' War Memorial.

The Printing Trades' War Memorial takes the form of a wing to the Caxton Convalescent Home, Limpsfield, and is now in course of erection.

Halifax Housing.

The Halifax Housing Committee have decided to apply to the Ministry of Health for power to limit the erection of buildings other than houses, so that the erection of houses may be accelerated.

Paris Fair.

Nearly all the trades of France are represented at the Foire de Paris, which has just been officially opened. A large section has been devoted to the building trades. One of the novelties consists of a house costing 6,000 francs, constructed in portable sections of wood and concrete.

State Building Ban.

The Cabinet Committee on Housing has carefully considered all new building schemes in connection with Government buildings, as provided for in the current estimates, and has decided that all buildings and contracts which would entice labour away from housing schemes are to be immediately suspended.

Birmingham War Memorial.

The Birmingham War Memorial Committee report that £100,000 has been promised, and enough has been received to cover the initial expenses of any memorial which might be decided upon. The scheme provides for the erection of a hall of memory at a cost of £100,000, and a large public hall costing £200,000. It is also proposed to lay out a corner of the site as a garden space and to erect a cenotaph.

Ancient Buildings in Danger.

The fate of the Elizabethan almshouses at Croydon—Whitgift's Hospital of the Holy Trinity—is still in doubt. In March the Ministry of Health declared it would not sanction any widening proposal involving demolition of the old building. The Croydon Council have decided to forward plans of the demolition scheme and of two widening schemes avoiding the hospital, with an intimation that the Council still favour the plan, involving partial, if not total, removal of the ancient institution.

New Housing Accounts Order.

We have received from the Ministry of Health a copy of the Housing Accounts Order (Societies and Trusts), 1920. The order applies to any public utility society or housing trust which has an approved housing scheme. In every case the accounts to be kept under the order will be subject to audit by a district auditor. Should any further guidance be desired as to the forms of account or the method of keeping them, reference may be made to the Housing Accounts Order (Local Authorities), 1920, and to the forms set out in the schedule to that order.

Hammersmith's Houseless 10,000.

Housing accommodation is urgently needed for 10,800 persons in Hammersmith.

Building Blocks from Clinker.

Marylebone Borough Council has authorised the making from clinker of 10,000 concrete building blocks.

Guildford Church War Memorial.

The design of Mr. E. Stanley Hall has been accepted for the oak war memorial monument to the Queen's Regiment, to be placed in Holy Trinity Church, Guildford.

Revival of Private Building.

Private enterprise in house-building around Manchester is awakening to greater activity—a development ascribed in the main to the Ministry of Health's increased subsidy.

Ibstock Housing.

The Government Public Works Loan Board have granted £20,000 to the Market Bosworth Rural District Council, and an immediate start will be made at Ibstock with twenty of the fifty-two houses which are to be built.

Joint Town-planning Committee.

The first joint town-planning committee having authority over a large and important industrial area has come into being and met for the first time at the Doncaster Mansion House recently.

Corporation Defy Dr. Addison.

The Colne Corporation have decided to reject the Government's conditions regarding height of rooms in municipal housing schemes as being opposed to public health and policy, and they refuse to proceed with their scheme if the Government insists.

Holsworthy Housing Scheme.

Holsworthy Urban Council have accepted the offer of the local Court of Foresters of two and a half acres of the Exhibition field at £225 per acre, and have approved the plans for twenty-six houses prepared by their architect, Mr. J. A. Lucas, Exeter.

Luxury Building Stopped.

The Sheffield City Council made orders to prevent certain picture palaces, proposed or in the course of erection, being proceeded with, and a number of companies interested appealed to the Central Tribunal in London, which has been set up to deal with these matters. The appeals in respect of the picture theatre and restaurant to be erected at South Street, Moor, and the reconstruction scheme for the Roscoe Picture Palace, Shalesmoor, have been disallowed.

Incorporated Church Building Society.

At the monthly meeting of the Incorporated Church Building Society recently held at 7, Dean's Yard, Westminster, Mr. George Cowell, F.R.C.S., in the chair, grants were made towards enlarging the church of All Saints, Plymouth, £150; and towards repairing the churches at Avon Dassett, St. John the Baptist, Leamington, £40; Brimscombe, Holy Trinity, Glos., £25; Upper Holloway, St. James, Middlesex, £75; and Barnsbury, St. Thomas, Middlesex, £50. A grant of £75 was also made towards adapting St. Francis Mission Church, Bethnal Green, Middlesex. £360 was also paid towards small repairs to thirty other churches.

Plans for Erection of Memorial Hall.

To perpetuate the memory of men of the Rifle Brigade who fell in the Great War, it has been decided to erect a memorial hall at Winchester.

Somerset War Memorial.

The Somerset War Memorial Committee have agreed that the memorial should be the restoration of St. Martin's Chapel in Wells Cathedral, with alterations to the Chapel of St. Calixtus.

Profits on Building Materials.

The three sectional committees appointed under the Profiteering Act to investigate the prices at all stages of timber, stone, bricks, and clay ware, cement and mortar, have practically completed their inquiries, and their reports will be presented shortly.

Bristol Architect's Success.

It has been announced at Guildford that Sir Edward Lutyens, R.A., the assessor appointed to select the design for the Guildford War Memorial, has nominated Mr. C. F. W. Dening, F.R.I.B.A., Gaunt House, Orchard Street, Bristol, as having submitted the best of fourteen competitive designs.

Disabled Men's Exhibition.

The public is about to be afforded an excellent opportunity of judging for itself the value of the training which ex-Service men disabled in the war have been receiving under the schemes administered by the Ministry of Labour. On July 21 an exhibition run entirely by disabled men is to be opened at the Central Hall, Westminster, to which the public will be admitted until the 29th of that month. Amongst the trades represented will be boot-making, watch and clock repairing, basket-making, tailoring, hairdressing, the building trades, including masonry and ornamental plaster work, the furniture trades, engineering, jewellery, and so on. The exhibition—to which a small entrance fee will be charged—will be open daily from 11 a.m. to 9 p.m.

Luxury Buildings and the Provinces.

The Northern Architectural Association, Newcastle, met for the purpose of considering the effect of the restrictions on building now being put in force under the luxury clauses in the Housing Act. Mr. C. S. Errington, who presided over a large gathering, said several of their members were feeling the hardship of the position which had arisen in Newcastle. The powers had been vested in the Housing Committee to decide what was and what was not a luxury building, and that in itself he thought was a mistake. Such powers, which were going to upset an industry of such magnitude, should have been invested in a committee composed exclusively of business-men. It was agreed to write to the Home Secretary asking him to use his influence in bringing forward the hardships under which architects were labouring. It was also agreed, on the motion of the chairman, seconded by Mr. Milburn, to approach the Royal Institute of Architects, drawing attention to the continued injury resulting from the application of the powers granted to local authorities.

dnesday, June 23, 1920

Volume LI. No. 1329

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

SIR WILLIAM CHAMBERS.

William Chambers, who was born 1726 and died 1796, was the son of a Scottish merchant. As supercargo on board a vessel bound for China he made many drawings of buildings, and afterwards spent some time in Italy, drawing and studying. On the advice of John Carr, Chambers was appointed to the post of architectural tutor to George III. (then Prince of Wales) and was later knighted and made Royal Architect. The greatest monument of his genius is, of course, Somerset House.

27-29 Tothill Street, Westminster, S.W.1.

Fountains. 2.—Monument to Georges Cuvier, Paris

Alphonse Vigoureux, Architect

This magnificent monument, which stands at the angle of the Rue Cuvier and the Rue Linné, was erected in 1840. It is, of course, in memory of the great naturalist—a female figure seated on a lion, by Fenétières, and surrounded by various animals, typifying natural history. Note the symbolical use of rams' horns for the volutes of the Ionic capitals.

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27-29 Tothill Street, Westminster, S.W.1.

:dnesday, June 23, 1920 Volume LI. No. 1329

Village Preservation and the Architect

WE may fairly conclude that the concentration of the past few years on cottage design has evolved the model plan, satisfying the exhaustive criticism of a dern commonsense attitude. But the thoroughness h which this modern problem of the cottage ; been approached is also directly responsible for growing regard in which our early cottage architure is held. An objective antiquarianism is ıdually giving way to a more radical estimation of inspiring temper of the old builders, and a more cere appreciation of the past, and while every :ouragement is given to modern ideas we are :eed that it is equally more important to preserve / building where the original requirements still very gely hold good. On economic grounds alone we prompted to turn to the best advantage our wealth old cottages, and on architectural grounds it is n more urgent not to allow the old examples of a ive building spirit to disappear.

n this direction there is very general agreement, l the questions involved are such that an architect ıld ask for no more congenial task than the ovation of an old-world village fallen upon evil days. d he a choice in the matter he would select a village too big and not merely a single "street," some ıote colony rather, but not so straggling as to e the vital sense of one community. The case would ›ly favourable auspices in the background, the dow of some primly unpretentious mansion, ical of that elusive transitional period between ›rgian and Victorian, with the fortunes of which vicissitudes of the village are obviously identified. require one more condition in a new owner, alive the neglect of the past and conscientious of the ponsibilities of the present, and such a one could e no more practical proof of the thoroughness of good intentions than by placing the village under right professional care.

)nly the youthful architect, with dreams of winning important competition and rising to fame over a numental public edifice, would be blind to the ›ortunities offered by such a case. In his eagerness to ›eriment with classic forms, or with hopes of creat- a new "style," he indulges in visions where the turer mind seeks actualities, only too happy that sting conditions must largely circumscribe his ative genius. For him there is a finer function in :ying on a tradition than in initiating a completely / order of things, and he knows that success will ›end on the degree in which his own individuality been merged in an older expression.

n taking such a scheme in hand, the first concerns uld be to understand and insist on its essentially ective nature. "Local colour" can only be ›lained by local history, and we can only understand growth of the village if all its peculiarities, its ıponent groups, are first discerned. Equally important is its relation to the surrounding district, in other words its precise topographical significance, quite apart from such practical questions as water supply and natural drainage.

The work to be done will call for co-operation between the architect and his client, even if the latter is disposed to grant *carte blanche*. The work may be spread over a long period and involve constant modifications in the process of developing an old estate. New buildings should be deferred until every use has been made of existing buildings, and, by judicious additions to the old cottages new ones may be obviated altogether. The simplicity of the old planning lends itself remarkably to the conversion of two or more cottages into one, and even where this means sacrificing a part of the old work much good work can be preserved that would otherwise be doomed.

In remodelling old buildings there must necessarily be much that will throw into striking relief many of the "ideal" plans embracing all the modern ideas of house-planning, but the discerning architect will not entirely discount the undeniably practical value of many of the survivals of immemorial usage. He is not laying out a new garden village but tending an old one, and he is influenced by observing, not destroying, organic significance. Where he can draw freely on modern experience is in the actual additions made to meet the growing requirements of the village, in which there need be no slavish imitation of old parts in a mistaken attempt to hide a twentieth-century expansion. So long as contemporary local characteristics still maintain their link with old traditions the architect is free to exercise his ingenuity in adaptation and development, irrespective of the antique side of the question. But what he frankly aims at is to mould the village into harmony with the more enlightened ideas of to-day, while preserving an appeal that is certainly not dependent on details we are now quick to condemn. In some respects, however, the secret of the old cottages does lie in details, as, for instance, in thickness of wall, with its infinitely finer opportunity for window treatment than the meagre nine or fourteen inches we are now expected to be content with, to say nothing of the modern tendency towards film-like slabs.

MARIUS IVOR.

[The policy outlined above has both financial and ethical advantages, for by the expenditure of a small amount of money in the renovation of old cottages it is often possible to achieve three very desirable ends at once, viz., save the expense of entirely new houses, actually add to the total of housing accommodation, and, finally, preserve for the benefit of posterity delightful specimens of vernacular domestic building. The Society for the Preservation of Ancient Buildings, it may be recalled, has published a very instructive report on the right treatment of old cottages.—EDS. A.J.]

Notes and Comments

The Guild Idea on Its Trial

LAST week, at the conclusion of a note on the Building Guilds, we stated that the Ministry of Health had come to an agreement with the Guilds, and we published, on page 770, an official statement on the subject. It now appears further that a form of contract suitable to the new conditions introduced by the Manchester Guild has received the assent of the Ministry. Mr. S. G. Hobson, speaking last Wednesday at a meeting of the Manchester and Salford Trades and Labour Council, was sanguine that the local Guild would set to work within the next few days. Manchester's example is sure to be followed in many other districts, and so at last we shall get some houses built. Whether the experiment will exhaust itself at the first burst, or whether it will prove itself a practicable and permanent solution of the crucial problems of industry, it would be idle to prognosticate. Previous attempts to eliminate—or at least to depose—the contractor have all been signally unsuccessful. In such cases, however, the adventure has been invariably more ambitious than that of cottage building, in which there is but little scope for the organising powers and the business ability by which the master builder justifies his position and his profits. Success, therefore, in so comparatively simple an undertaking would be no criterion of the ability of the Guilds to cope with more complicated work, in which skilled management (the fruit of natural bent cultivated during years of experience), scientific organisation, and a large reserve of capital, are of first-rate importance. If the Guild idea gives us, quickly and at moderate cost, the supply of houses for which the country is clamouring, it will do all that can be reasonably expected of it. And by its practical worth, not by its theoretic plausibility, the Guild idea must stand or fall.

"Who Would be a Builder?"

This is the heading to a powerful article in "Ways and Means" for June 12—the most slashing indictment that we have yet seen of the circumlocution and ineptitude of Government Departments entrusted with the urgent matter of national housing. Before the State stepped in, first to stop and then to stimulate (?) housing, "we did get houses—whether it was due to the push and go of the architects or the builders or the owners." What are they waiting for now? Mainly for Government sanctions. In the words of the writer of the article, "The would-be builder has not only to conform to all the requirements of the numerous parties which made his business harassing enough before the war, but he has also to submit to a mass of rules and regulations designed in response, strange as it may seem, to a national desire to get more houses." What makes the matter infinitely more hopeless is that many of these so-called "regulations" are of the "unwritten law" variety, depending pretty much on the whim and caprice of irresponsible magnates or underlings, as the case may be. After running the gauntlet of "local, county, regional, district, and divisional functionaries in order that they may reach Whitehall with the proper credentials," the plans are there "subjected to the further criticisms of further cranky specialists with ideas." When at length (if ever) the plans get through, difficulties are raised with respect to prices and supplies. The Ministry of Health must needs send the specification to the Building Supply Department of the Board of Trade to have the prices checked by the figures at which this Department is prepared to supply the goods. "This process," comments the writer of the article, "appears to be introduced to allow the Board of Trade to carry on its business of profiteering in building materials." Finally, on getti his licence to begin building (at a time when, but for this rigmarole and red tape, he would have had finished), he finds that the so-called Supply Departme fails him in respect to many of the things that he h been licensed to buy from it. And if at last the hou is actually built, it will not be worth all the fuss a trouble. It will be "nothing but a square box of bric with a slate roof." An article of the "slashing" varie is seldom scrupulously accurate in its every detail; a it is not at all surprising to find a few flaws in the prese indictment. Slight inaccuracies, however, are harc worth mentioning. What is of real importance is th the broad charge of Departmental ineptitude is ghas true. And the article makes it plainly evident that f all this muddle there is only one remedy—instant wi drawal of all Government control of building: this fre dom being long overdue.

The Threatened Churches

Interest in the fate of the City churches must not allowed to flag. The issue is so simple, however, th it is difficult to keep it fresh. Would that Ruskin we still with us to thunder against the vandals! Rememb how cogently he states the case against destruction Chapter vi. of his "Seven Lamps of Architecture." is no question of expediency or feeling, he there sa "whether we shall preserve the buildings of past times not. *We have no right whatever to touch them.* Th are not ours. They belong partly to those who bu them, and partly to all the generations of mankind w are to follow us. The dead have still their right in the that which they laboured for, the praise of achieveme or the expression of religious feeling, or whatsoever e it might be which in those buildings they intended to permanent, we have no right to obliterate. What have ourselves built, we are at liberty to throw down; b what other men gave their strength and wealth and l to accomplish, their right over does not pass away w their death: still less is the right to the use of what th have left vested in us only. It belongs to all their succ sors. It may hereafter be a subject of sorrow, or a cau of injury, to millions, that we have consulted our prese convenience by casting down such buildings as choose to dispense with. That sorrow, that loss, have no right to inflict." The Bishop of London's Co mission seem to have forgotten their Ruskin; or perha they have consciously taken a mean advantage of l absence. Anyhow, our citation is appropriate to t occasion. Ruskin would have been delighted with t resolution which Canon Masterman proposed at t London Diocesan Conference held at Westminster la week, but vexed at its fate. It expressed the view th the number of churches scheduled for demolition is mu higher than the circumstances justify; that the form tion of four large parishes is too violent a break in t historical continuity of the ecclesiastical life of the Cit and that the administration of the surplus funds shou be entrusted to an *ad hoc* committee on which C interests should be adequately represented. We reg that these recommendations were defeated, and that resolution proposed by Professor Beresford Pite disa proving of any further secularisation of consecrat buildings and sites within the area of the City of Lond was lost by an overwhelming majority. The custodia of our ancient churches seem bent on proving that th are unworthy of the trust.

"Luxury Building"

The Society of Architects keeps pegging away at t ban on so-called "luxury building." It has issued further circular letter to the Press to expose the fallacy

ying to concentrate all building energy on one class of ork. By persisting in this futile course, the Ministry of lealth are doing themselves a great injustice—they are ying themselves open to a charge of stupidity and ostinacy which will discredit them rather seriously when ıey undertake the work that is more appropriate to a lealth Department than the autocratic and arbitrary ontrol of building. They would be wise to free themelves from this responsibility before it is wrested from ıeir grasp. It is still possible for them to withdraw with race from a position from which we should be sorry to e them compelled to retire with ignominy, but they ad better be quick to take the hint.

Why Skyscrapers ?

The answer to this question is found in the large sum btained as ground rent for some building sites in Cornill last week, when, at an auction held at Winchester louse by Messrs. Farebrother, Ellis, and Co., two sites etched respectively ground rents of £4,300 and £2,850 er annum. For the respective areas of 580 ft. and 50 ft., these rents work out the one at £7 8s. 6d. and ıe other at £6 3s. 10d. per foot. Small wonder that ıose who pay such formidable rent for a small plot of round should yearn to delve downward as far as possible ı such rare and precious earth, and also to load it up cyward with rent-earning story upon story. How these peculators must envy Chicago its coming "largest hotel ı the world," with its four thousand rooms—a convenon that, as a writer in the "Manchester Guardian" comıents, "appears to have more in common with a townıip than an inn"; and he suggests that it should have s own parish council and return its own member to arliament.

Research Buildings for Cambridge

Men of vision do not fail us. Among the recent influx f endowments of scholarship and research is the gift of 165,000 to Cambridge University for the building f an institute of bio-chemistry and for the endowıent of research: the bequest being that of the te Mr. William Dunn. Whether it is he, or the irectors of the Commercial Union Assurance Comany who are acting as his trustees, to whom cognition is due for the enlightened use to which ıe money is to be put does not matter very much. he important point is that the potential value of ur universities to the community is now more clearly erceived than it was a generation ago, when the endowıent of scientific research was regarded as if it were the ncouragement of black magic—of "impious prying into ıe secrets of nature," as a favourite cant phrase had it. ritish brains, as the annals of science show, have an nexcelled aptitude for scientific investigation and disovery, but always it has been seriously discounted by ıe want of ways and means, and especially by the lack f suitable buildings and equipment. All eyes will now ırn to Cambridge as an exemplar in the housing of cience.

A Sir Robert Taylor House Sold

A house designed by Sir Robert Taylor came under ıe hammer last week. This was No. 35, Lincoln's Inn ields. Sir Robert, who was the son of a London stoneıason (b. 1714, d. 1788), was a sculptor as well as an rchitect, and executed two of the monuments in Westıinster Abbey, a statue at the Bank of England (to hich he was appointed architect or surveyor). The incoln's Inn Fields house, which is highly esteemed as good specimen of early Georgian, was built in 1754. t the recent auction it realised £22,000. At the time hen it was built Lincoln's Inn Fields was a residential uarter for rich merchants, but for many years past most f the houses, No. 35 among them, have been let out in ıites of offices to professional and business men, the fine old rooms being subdivided into two or more. Sir Robert Taylor is buried in the Abbey, underneath the seats in the south transept, where also lie the remains of Robert Adam, who died in 1792. Robert had been architect to George III., and a crowd of fashionable people attended his funeral, his pall-bearers including the Duke of Buccleuch, two earls, a viscount, and a lord. Sir William Chambers, who died in 1769, also rests in the Abbey. James Wyatt, who died in 1813, although he was appointed surveyor to the Abbey (1776), and succeeded Chambers as the Royal Architect and as surveyor to the Board of Works, and is buried near him, is in nowise comparable to him as an architect; for this is that Wyatt who by his excessive zeal as a "restorer" earned the unenviable nickname of "the Destroyer." Lincoln, Salisbury, and Hereford Cathedrals bear the marks of his devastating courage and cunning. He was a great favourite with those who yearned for the revival of Gothic; whereas Taylor was, of course, an apostle of the Classic Revival. The monuments that Taylor put up in the Abbey are of little merit—or none at all. Near the tablet to his own memory is one to "Long Sir Thomas Robinson," who was an architect of sorts. "His love of building," chronicles the daughter of the late Dean Bradley, in her excellent "Roll Call of Westminster Abbey," "led him into so many financial excesses that he ruined himself in England, and was obliged to accept the post of Governor of Barbados."

Buildings and Lightning Rods

During the recent storms many buildings were "struck by lightning," as the popular phrase has it. Most of them, it would seem, were quite small houses, and hence arises the question whether it is justifiable to leave such buildings so entirely and so generally unprotected as they are. The efficacy of lightning-rods in protecting buildings from stroke, by earthing the current received at some high point by a copper conductor, is mainly a theoretic assumption; but the comparative immunity of large buildings that are provided with lightning conductors, and the frequency with which unprotected buildings are struck, are facts that seem conclusive. The frequency and destructiveness of recent thunderstorms suggests the desirability of closer investigation of the subject for the better protection of men and beasts and buildings and trees.

Regaining Knack and Knowledge

During the years of warfare, there was untold waste of knowledge, as well as of most other things, material and spiritual. Men and women on war service found that knack and knowledge were more easily forgotten than acquired. In five years or more of disuse, the mechanic lost much of his skill of hand—his "touch," his "knack," his habit of concentration. In most instances the old mechanical dexterity will be restored through renewal of steady application to the old work. In this comparatively simple matter of handicraft there is no other way; although the craftsman anxious to recover his old form will be less disdainful than it is said that he used to be of the aid of technical manuals. To these he will now turn more eagerly than ever before in the hope that they will show him a short cut to the recovery of his old skill and efficiency. More difficult and more painful is the effort of the professional man to "come back to his old form." Not only has much of his laboriously acquired knowledge completely evaporated, but some of that which has remained with him he finds, to his dismay, is incomplete and out of date. He cannot apply it easily to the new conditions that have sprung up during his absence. We trust that these considerations are receiving due attention in the right quarters—from industrial and professional organisations, and from educational authorities, but we should be glad of full and explicit assurance that this crying national need is being adequately met.

The Week's News

Well-known London Surveyor Resigns

Mr. Henry Lovegrove, the doyen of the London district surveyors under the London Building Acts, has resigned his appointment, to take effect on September 30. He has held office for over thirty-three years.

R.I.B.A. Royal Gold Medal

The presentation of the Royal Gold Medal for 1920, originally fixed for Monday, June 21, has been postponed till later in the year, when it is hoped that M. Girault will be present to receive the medal in person.

Sir Frank Baines's Appointment

The Commissioners of H.M. Office of Works have consolidated their various architectural and surveying departments, and placed them under one head, who is styled "Director of Works." Sir Frank Baines, C.B.E., M.V.O., has been appointed to the position.

Housing in Flanders

A special correspondent of "The Times," who is traversing the French battlefields area, says: "As far as can be judged the most urgent housing problem in Europe is being solved to the satisfaction of the people chiefly concerned. Every villager is his own builder. He puts up a standard house on a uniform plan from materials, walls, roofs, doors, etc., provided by a system of mass production. Practically everything is of wood, but no house of brick or stone could be more cosy."

Nurse Cavell Monument at Paris

A monument to the memory of Nurse Cavell has been erected in the Tuileries Gardens. It has been presented to the city by the "Matin," and is a large bas-relief by the sculptor Gabriel Pech, covering the whole of the end wall of the Jeu de Paume at the corner of the Rue de Rivoli and the Place de la Concorde. A German helmet, surmounted by an eagle, is all that recalls the authors of the crime. The murdered Englishwoman is shown lying in the foreground. In the background are smoking ruins, and behind a winged figure of Fame is scattering roses. The Royal arms veiled in crape are shown beneath the figure, with the emblems of France and Belgium on either side. There is no inscription, only the name "Edith Cavell."

Allied Housing Congress at Buckingham Palace

The King has received at Buckingham Palace a deputation from the Allied Congress on Housing and Town Planning which has been sitting in London and inspecting housing and town-planning schemes in various parts of the country. The delegates, about twenty in number, were presented to the King by Dr. Addison, Minister of Health, and an address, which was read by one of the delegates, was handed by Dr. Addison on their behalf to the King. The address dealt with various details of the work of the Congress. His Majesty, in the course of his reply, said: "It is particularly noteworthy that the Congress have been able to establish in some detail an ideal standard of accommodation and comfort in all the homes to be provided. The resolution on town-planning cannot fail to encourage those who realise that the proper solution of the housing problem lies not merely in the provision of more and better houses and the clearance of slum areas, but in the far-sighted planning which will put on proper lines the development of our centres of population. The meeting of the Congress and this expression of their views is a significant demonstration of the awakened feeling which is animating the people in all countries. This Congress is a testimony to the realisation that the provision of improved housing is fundamental to the health, happiness and progress of all the peoples, and the proceedings of the Congress must be a great stimulus and of great value to all who are grappling with the problem."

To Rebuild Louth

The Ministry of Health is arranging for an extension of the Louth housing scheme, rendered urgently necessary by the recent flooding. The scheme will be prepared and carried out by the Office of Works, on behalf of and at the expense of the Borough Council.

Shepherd-Sculptor's Rise to Fame

The young shepherd-sculptor, Paul Dardé, has won the much-coveted French national prize for sculpture. He is only twenty-eight years of age, and began his artistic career twelve years ago. He was brought to Paris by an art professor, whose notice he had attracted whilst tending his sheep in the Cevennes, and entered the National School of Art. He travelled in Italy, and on his return worked in the studio of Rodin.

The Threatened City Churches

The members of the City Livery Club, after hearing an address from Sir Banister Fletcher at the Holborn Restaurant, passed a resolution that they regarded "with horror and indignation the proposed demolition of nineteen City churches," and pledged the club to do everything in its power to prevent such a catastrophe. Speaking at the London Diocesan Conference the Bishop of London said very few of those who denounced the proposal to demolish City churches had given sixpence to support the churches. He had been offered nearly £500,000 for one of the sites, and with that sum he could build and endow churches where they were more needed.

Architect Honoured

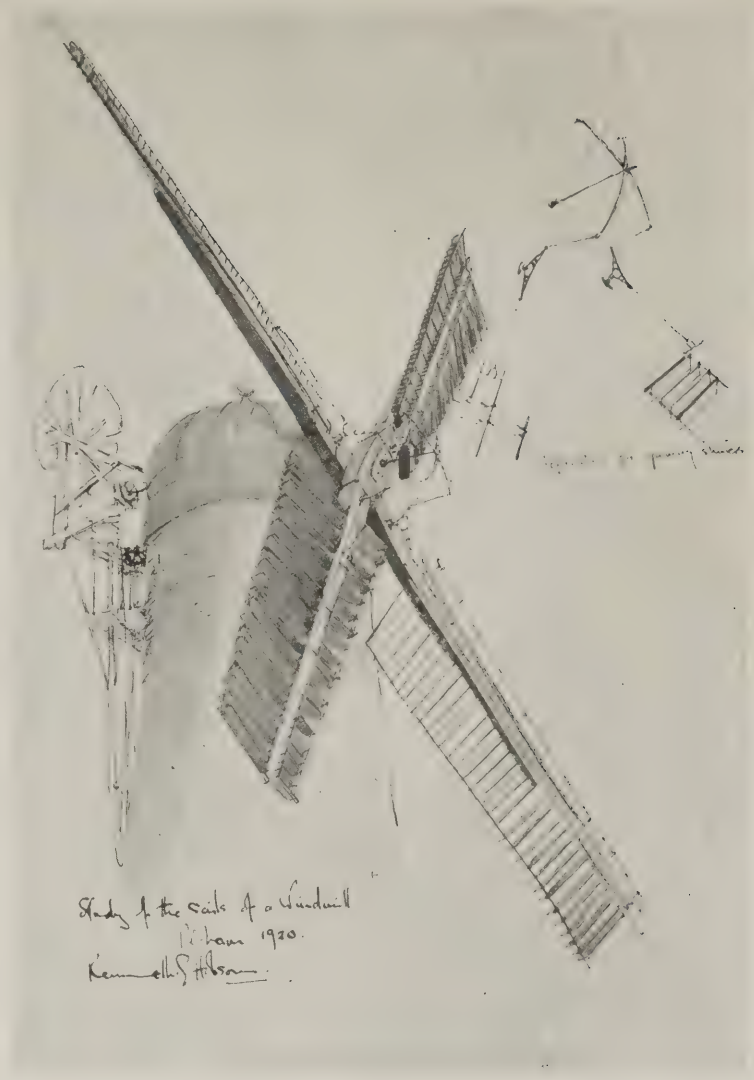
The "London Gazette" announces that the King has been pleased, by warrant under His Majesty's Royal Sign Manual, to grant permission to Captain Ewart Gladstone Culpin to wear the decoration of Officer of the Order of the Crown, conferred by the King of the Belgians in recognition of valuable services rendered during the war. Captain Culpin's services were particularly in the direction of the town planning and the reconstruction of Belgium. He is now, with Mr. R. S. Bowers, practising as Messrs. Ewart G. Culpin and R. S. Bowers, of 27a Bush Lane, E.C., engaged in carrying out several large housing and town-planning schemes, particularly for public utility societies and garden city schemes. Captain Culpin was for many years secretary of the Garden Cities and Town Planning Association.

Stoppage of Building

The Council of the R.I.B.A. has been requested to hold an inquiry into the effect of the stoppage of building works throughout the country under Section 5 of the Housing Act of 1919. It is therefore desirous of obtaining information relating thereto. Building owners, architects, and others engaged in building operations are asked to furnish the secretary of the R.I.B.A., 9, Conduit Street, W.1, with information in writing as soon as possible as to: (a) Buildings which have been stopped during progress. (b) Buildings as to which warning notices have been issued. (c) Buildings which have been prohibited from starting under the following heads: (1) The nature of the building so stopped. (2) The cost of such building. (3) The approximate number of men employed in the various trades of such buildings. (4) Any information as to buildings which have been allowed to proceed subject to the substitution of other materials for those originally intended. Any other information of value will be greatly appreciated.

Types of English Windmills. Sketched by Kenneth G. Hobson

POST MILL.



SMOCK MILL.

The fascinating subject of Windmills is dealt with lightly but very informatively in this week's "Architectural Causerie." In connection therewith the two delightful examples shown above will be studied with interest. Mr. Kenneth Hobson's clever sketches are notable as much for their clearness in the rendering of mechanical detail as for their high artistic merit.

Architectural Causerie: On Windmills

MANY of the old authorities, entering upon any dissertation on windmills and the services such fascinating contraptions render the community, attempt to fan interest in the ind of the reader by revolving their discourse around e trials of primitive life.

* *

The windmill as our grandfathers knew it has :come obsolete, but our affections for the ancient ndmarks survive the machinations of gas, oil, ectricity, steam, and company. There is not an chitect in England to-day who is likely to be comissioned to design a windmill, but there are few, will go bail, who have not hoarded some pencil etches of the brick and timber giants of Sussex and e Fens, whose task it was, and here and there still to grind corn to make bread. The old books define, th laconic exactitude, this ancient machine: "Windll, a Mill driven by the impulse of the Wind, for inding corn, watering land, and various other uses." e townsmen see in the windmill a champion of our ght to exist. It is a symbol of man's power to rness the elements, to overcome difficulties, to tort from Nature some return for the toll of labour manded. It is a symbol, also, of the free life of the en country. We protest when the fiat goes forth at the old mill at Wimbledon shall be destroyed; ere are even ardent spirits who desire the restoration the vanished sails.

* * *

There used to be a mill at Guy's Cliff, in Warwickre, with a pedigree going back to Saxon times. is high antiquity may well be doubted, but we are nevertheless, certain that mills were in existence in Normandy early in the twelfth century. Late in the thirteenth century Edward I. granted the right to the Prior of St. Katherine's at Lincoln to erect a windmill —*unum-molendinum ventriticum*—at the entrance to the Priory.

* *

Regarding the antiquity of the windmill, there can be little doubt that these useful machines were introduced into England after the first Crusade, and that six hundred years ago the mill had become a feature amidst the English scenery. When the Council of Clermont urged upon Urban II. to proclaim the first Crusade, little was it thought that the Knights of the Palestine Expeditionary Force would note how the deficiency of water in Syria had necessitated the invention of the windmill, and none could have anticipated that some far-seeing soldier would bring the idea to Europe.

* * *

Both the Germans and the Dutch appear to have developed standard types of windmills. In the former, the whole mill was arranged and supported on a post, round which it could be turned for the sails to catch the wind. In the latter the body, of substantial construction and design, was stationary, the capping or hood alone revolving. The turning of the mill, in order that the sails should be brought to the wind, in both cases was managed by hand. This was done by means of cog-wheels working on a rack fixed round the support. The Dutch millwrights had devised an automatic arrangement—namely, an auxiliary vane or "fan-tail."

* * *

In the design of the windmill we encounter the beauty of efficiency. Perhaps Leonardo da Vinci obtained his idea of the aeroplane from a study of the windmill. The wonder is that, with their limited knowledge, the old millwrights were able to erect such machines. They built and designed with true instinct and not a little of that rare gift called "air sense."

* *

As the need for windmills increased so improvement crept in. It became apparent that the wind acting on four or more sails, pivoted on an axle with their faces nicely adjusted and slightly inclined to the plane of the sails, would result in increased power, the wind force resolving into a strain and driving power acting vertically to the inclined faces which turned the sails on their axle. From the propeller the power was transmitted, much as the drive of a modern motor-car is carried from the clutch to the differential, by means of cogs and bevels to the shaft driving the mill wheels. And so in fancy we can observe the shoots, the miller in his dusty coat, the rats and mice, and the white flour ready for distribution.

* * *

If the above specification has been bungled then may my readers send in more accurate facts. Stay, there is still the fan-tail, placed on the long arm on the side opposite to the sails. By virtue of its leverage the fantail is kept in the direction of the wind, thus forcing the sails or propellers to keep at right angles to that direction.

* * *

The modern metal mill, standing above the grass like one of the Martians described by Mr. Wells, contains in its design all the attributes to the old form of windmill. It is a nasty spidery affair, promising much and performing much, shrieking in the gale when its revolutions exceed the limit, rattling and roaring and frightening the crows. We do not like

SMOCK MILL AT PATCHAM.
SKETCHED BY KENNETH G. HOBSON.

them and we never shall—these spoilers of the landscape. They present efficiency without grace, and aptly symbolise modern haste and scurry.

* * *

The windmill at Chesterton, in Warwickshire, is, perhaps, the best example of what the applications of superior art can achieve. It is said that the sure eye of Inigo Jones fashioned its domed capping, and shaped the arcuations in the circular body. Worthily, and with an air, it carries its four sails, beckoning to architects to investigate its secrets.

* * *

The obsolete or obsolescent windmills of England still do yeoman service, the former as historical landmarks, the latter by maintaining the tale of the England that was. In all these examples the pattern of the fourteenth century persists. We note the distance of these veterans from the roadside, and remember that no windmill was allowed to be erected within a hundred and fifty feet of any carriage way without being enclosed and concealed from the view of horses, under a penalty of £5 per day during the continuance of such transgression. Small wonder, then, that our great-grandfathers entertained a similar prejudice against the steam-engine, and that carriages on the railway had to be lowered into Euston Grove by ropes.

* * *

It must be understood that a "post windmill" has the whole mill elevated some ten feet from the ground, revolving upon a strongly braced oak post. A "smock windmill," on the other hand, is of brick or stone, circular in plan, with battering wall, the head revolving automatically by the wind, actuating a tail fan so set that the sails always face the wind. Over a century ago patent sails with movable slats came into being, thanks to the ingenuity of Sir William Cubitt. These slats were worked on pilots, balanced by a weight in the mill roof, and so adjusted as to close in slight winds, and to open when furious gusts prevailed.

* * *

And now for a word about mills and their whereabouts. Gone are the windmills of Pentonville that caused Francis Bacon to create the mound in Gray's Inn Gardens, whence he could watch the gyrations of the giant arms. There is the stump of the mill at Arkley, near Barnet, another stump at Biscot, just beyond Luton, a fine stump of a smock-mill in brick at Houghton Conquest, and a magnificent example in full working order at Cranfield, on the way to Newport Pagnell. Where are the sails of the mute mills of England? Seemingly a cohort of Quixotes has tilted its lances against the protesting giants. We are thankful for the marshes of East Anglia, for they demand millage. We would spare the hoary wind-driven machines of Sussex, and let him be accurst who dares to decry old Inigo's giant at Chesterton.

* * *

Gone skywards are the old mills, some in the form of aerostatic machines: others, more ghostlier still in semblance to Méryonesque monsters, whirr across the screen of the mind. They belong to the past, the mighty past, out of which the present has emerged, leaving us fired to emulate their grace and efficiency in works of present-day import.

AERO.

York Revisited.—I

By MAJOR H. BARNES, M.P., F.R.I.B.A.

I SPENT the recess in York. I have been visiting York now for many years, passing from the station under the walls, over Lendal Bridge, wherever my business might take me. I had seen the Minster, I had seen St. Mary's Abbey; beyond that, little of the city. I was caught by a fancy to see something more of it, and gave to it the few days that were mine to give. I do not regret the gift. It was repaid with usury. I thought in ten days to have exhausted York; I find I have only begun its acquaintance. Some day I hope to return and cement the *entente*.

There is a story a friend of mine always tells to visitors on the Terrace at Westminster: it is the story of John Burns and some Americans. They were regarding the Thames from the Terrace.

"Have you ever seen the Missouri?" John Burns was asked.—"Oh, yes."—"What did you think of it?"—"Water," was his reply.—"Have you ever seen the Mississippi?" was the next question.—"Yes."—"What of that?"—"More water," quoth the sage of Battersea; whereat the offended American, "Well, anyhow, what's the Thames?"—"Liquid history," was the characteristic reply.

If the Thames is liquid history York is frozen history. I know Chester fairly well; it has its charms, but I think the real spirit of the past is better found at York. There is a story of Chester. A visitor who was being shown round was told of the Roman occupation. "Julius Cæsar came here," he was informed. At that moment a barrow hove in sight—"And there's one of his descendants." On the barrow the words "Julius Cæsar" confirmed the tale. Julius Cæsar I have no doubt was in York, but they do not boast of him there; they do not need to. Not one emperor, but three, lived in York, and, what is more, died there. Men's deaths are sometimes more important than their lives, and it is something for York citizens to remember that the lives of three emperors terminated in York. Hadrian, Severus, Constantius, laid down their earthly glories in this city, inhabited by a people whose race rules over lands that Cæsar never knew. Roman emperors have not only died in York, they have been born there; no emperor so great perhaps as Cæsar, but one whose actions, in their influence on human destiny, have hardly been less potent. Constantine was born in York—Constantine who carried the Imperial banner from Rome to Byzantium, out of which action came the cleavage dividing the Roman Empire into east and west; a cleavage still, a yawning chasm, between the peoples of Central and Eastern Europe. Strange that a pulin babe born within the circle of Yorkshire moor and sea should start a chain of consequences, one of the last links of which I saw on the walls of the Minster, in the monument to Cradock of Coronel. The fear of the Goths changed the Roman capital, and that awful descent on Europe of those who never bowed to Roman rule delivered up its long toll at last on the fields of France and Flanders, where the German eagles bowed to France and us.

Despite all its mediæval pageantry one cannot forget Rome in York.

Yet the memories of Rome are not all military. In the fine museum where, carefully treasured, may be found relics of Rome gathered from all over the broad shire, side by side with altars to unknown gods with arms and implements, are to be found little childish toys which tell more strikingly than could aught else that the Roman occupation of Britain was more than military occupation—that settled life and order followed it, that Roman culture came as a sequence to Roman conquest, that not alone the camp and the

Modern Domestic Architecture. 10.—Remodelling of Blue Hayes, Broad Clyst, near Exeter

Richardson and Gill, FF.R.I.B.A., Architects

These illustrations show the remodelling of a typical late eighteenth-century house in Devonshire. The alterations included the provision of a hot-water supply, an electric light installation, and new sanitation. The builders were Messrs. Nicks Bros., of Bradninch.

Current Architecture. 24.—Proposed Chemical Laboratories, Liverpool University

Briggs and Thornely, FF.R.I.B.A., Architects

The exterior of the above building is to be of brick, with stone dressings sparingly used. The elevations are of a simple character, designed after the manner of the Georgian period. A full description of the building and its accommodation is given on page 800.

astle, but the Roman villa were to be found in these ınds. Children played here, if soldiers camped; and ıere is abundant evidence that for many a year much hat Rome knew of civilisation, of gracious and rdered life, was enjoyed by those who in this land ere more remote from Rome than are from London ıose who live to-day on the fringes of our own ominion.

Who excavate old cities find recurrent layers telling f preceding generations. So in York, here we have istoric strata that connect us up with pagan times. But has other history. There were pogroms in York as in Russia. There have been anti-Semites ever since Chris-anity became allied with the State, and there will be nti-Semites no doubt for many a long day to come. is curious how the old stories continue, how the old ımity runs from land to land like spark on tinder; hether it is in the XIIth Century in England or the XXth Century in Russia the old tale is told—that ewish feasts are celebrated in Christian blood. St. ugh at Lincoln marks the old tradition. Nations only iffer in the date at which they grow up. We shudder outrage and horror in Russia to-day, only because ıe day has passed in which we ourselves indulged such ickedness. In 1189 the citizens of York rose against ıe Jews, who took refuge in the Castle. There, in ıeer desperation and fear, two thousand of them ized the great tower and refused to admit the gover-or. Persuaded at last that no fate but death awaited ıem, they set fire to the tower and destroyed them-elves in the flames. Some there are who believe round l such places remains for ever a spell transmitting to ıe sensitive soul the horror of the past. However that ay be, the spell fails in the bright sunshine, and it was difficult indeed under blue skies even faintly to imagine the smoke and tumult of that day.

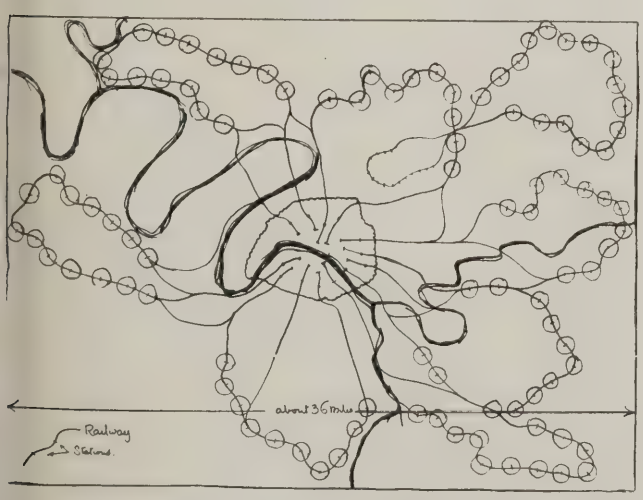
If York was not to be exhausted in ten days it is not to be exhausted in a thousand words, and I shall want other chances to tell its story.

It is a walled city like the city of Mansoul. That city, if I remember my Bunyan, had at least four gates, though I hesitate to give the names of them. York has four gates, four principal gates; "bars," they call them there, and very formidable bars they must have been to those whom York desired to keep outside her gates. No less a personage than a King of England only gained access by giving promises which, alas, like too many kings, he broke. Nothing was more inspiring in those days than the sturdy independence of the mediæval burgher. Behind his stout city wall he had little fear even of the Crown. Temple Bar is gone, but the obstacle in the Strand is sufficient to remind us that the access of Westminster to the City was by leave. The Chancellor of the Exchequer in those days could not raid the city with the facility of his successor to-day. What is true of London was no less true of York. Those of us who come from the north like to flatter ourselves that the spirit of independence thrives there, and the burgher of York, no less than the burgher of London, was jealous of his rights, and obstinate in his defence of them. Walls put up against the Scot were a good barrier if occasion needed against his lawful sovereign. It speaks much for the survival of the burgher spirit in York that its walls and bars should be kept in such good condition. The moat is gone, the drawbridges are no more, but in one place at least the barbican remains, and in more than one the portcullis is still to be seen.

Town-planning Schemes for Greater Paris

(*Concluded from page* 765, *No.* 1328.)

THE main preoccupation of our notion for Paris is so to arrange for healthy and tolerable life some way out of town, without on the one hand turning the Parisian adrift in a cité-ırdin (which to him, would be just a wilder-ess) or subjecting him to the fameuse campagne de ondres style of existence as exemplified in the present evelopment of the Croydons, say, or West Ham. A ealthy and tolerable residence is undoubtedly the first ing to be sought and attained, and, being attained, to e defended. The first line of defence exists, i.e., the ne non-ædificandi of the fortifications. Parisians ıve a way of regarding this as a fearful stumbling-block ı the way to fresh air, whereas in reality it is the first and blessed instalment, a superb belt, two furlongs and more wide, which should be preserved at all cost (they talk of selling part of it for building, in order to pay the Government for the rest!). We follow this up with two further rings, very irregular rings, following existing unbuilt-over territory, each five to seven furlongs wide, and, in so far as they cover private property, subjected to a servitude non-ædificandi rather than to expropriation outright. Beyond the third ring we plot out a lot of little towns, about right for twenty to thirty thousand inhabitants each, strung along the special lines which connect them with the centre of Paris. Each little town is bounded by a zone of its own, bounded and protected. The zones would naturally become playing fields and gardens. What is really singular about the arrangement is that the special lines have no stations at all between Paris and the first of the little towns.



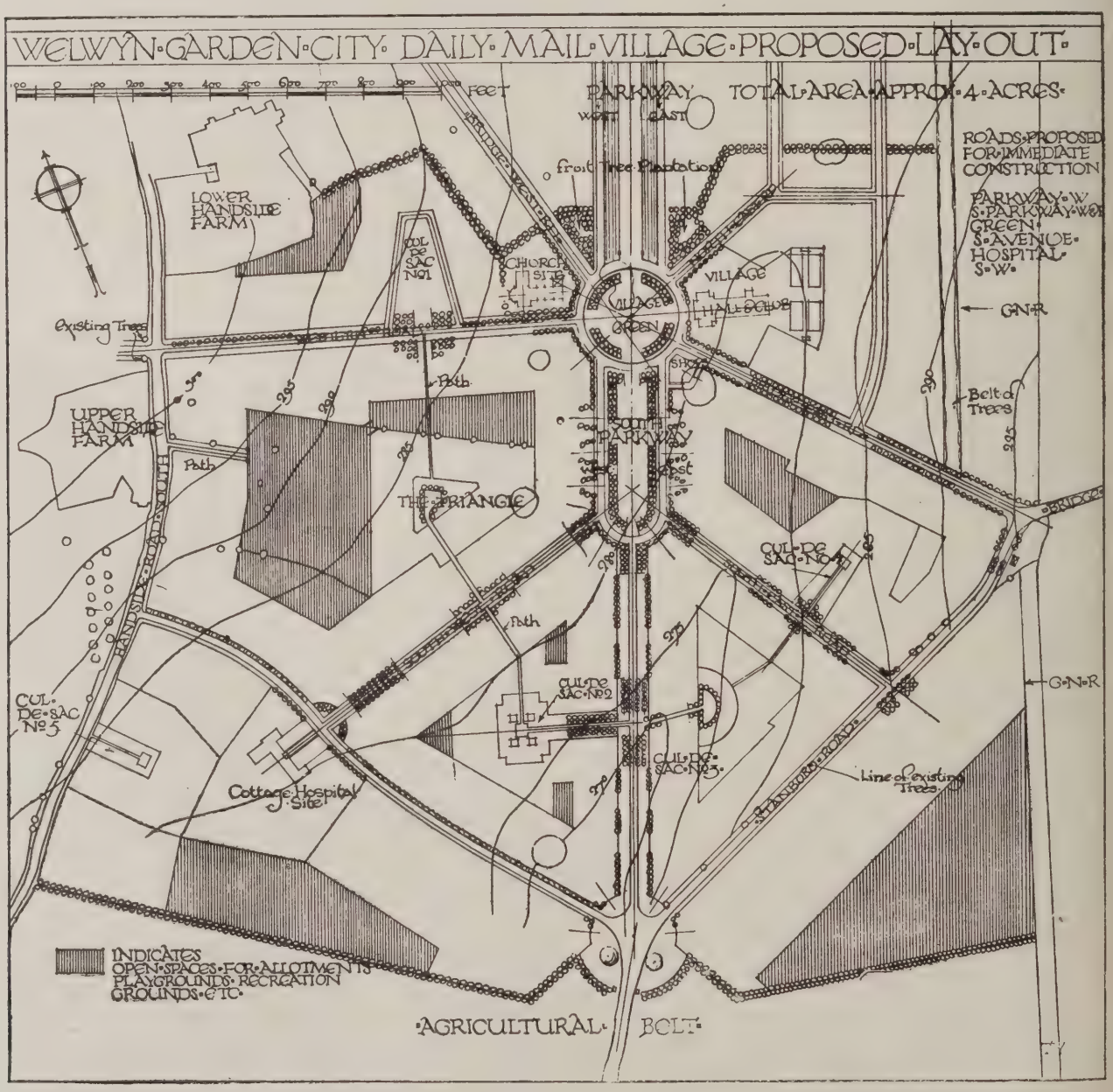
E "VILLES D'HABITATION" OF MESSRS. FAURE-DUJARRIC, BERRINGTON, AND CHAURÉS.

I could go on in this strain indefinitely, given tobacco and an expert English stenographer, neither being easy to come by in Paris. There are so many problems. Many designs go in for circular roads, for example. Very jolly on plan and in theory. But I do not know of a single instance of an "annular" pulling its weight in practice, justifying, that is to say, its upkeep and acreage in volume of traffic. Can anybody tell me of one? Then there is the question of the extent to which one can remove vital organs and put them in a cupboard or the breast pocket, as it were, without hurt to the organism—i.e., can one, in fact, gaily shift such primary things as the central market of Paris, or thrust the oldest University in Europe out into the fields, however much more spacious and airy these may be than the Quartier Latin? Will a capitalist plant a factory in a certain locality because it is marked "Zone Industrielle," rather than try all he knows to put it somewhere within easy reach of ten times as many employees as he requires?

What does an ouvrier think of a "cité-ouvrier"? What actually is a cité-jardin? Is it a cité or a jardin? For the two are different, and can't exist in the same place and at the same time. (Our garden cities, for instance, are neither the one nor the other.) What is to be done about the "Metro"? At present it is about as orderly as a box of snakes and as exasperating as the tubes at Piccadilly Circus. (We had a great scheme; sorry I can't go into it; no one else seems to have bothered about the plexus, most being content to tack nails on to the termini.) What is to be done about the great railway stations, too? They butt into the town just as those in London do, and if you want to get from one to the other and have a trunk and no taxi you've just got to sit on the trunk (not a rare sight this last day or two). We went in for a Gare Centrale. M. Jaussely turns the termini into wayside stations, makes tunnels from one to the other, and forms his trains outside the city—which is, I now think, a better scheme for Paris. If the hospitals have got to get out into the country (which is agreed), is it better to have them scattered about or have one enormous general hospital at a particularly suitable spot, with a system of first-aid posts and casualty-clearing stations in the town and suburbs?

And so on—and on, for pages or weeks—without a word about avenues, "rond-points," vistas, triumphal arches, fountains, and the rest. One begins to wonder what an architect has to do with it all—as architect. The reason probably is that so few, who are not either architects or engineers, can really read plans. But that is not enough. One has to feed on figures and try to think straight. The process leads (led us, anyway) to the following conclusions, which I place in due order. Primo: That what Paris needs is room, to live in, to work in, to play in—assuming, as one must assume, that the population is to grow and not diminish. Secundo: That as room to live (rather than slowly die) in is now only to be found in the comparatively open country, and that as room to work in (necessarily in Paris—or one might as well be in St. Etienne or Narbonne) can be had only by evacuating residences in the town, and that as room to play in means fields not too far from the home, a system of communications which will take folk well out into the country, which will encourage them to evacuate the centre, and which will not allow urban areas to spread like a slow disease over the countryside till there is no play room left, is of the utmost importance. Tertio: All other considerations whatsoever.

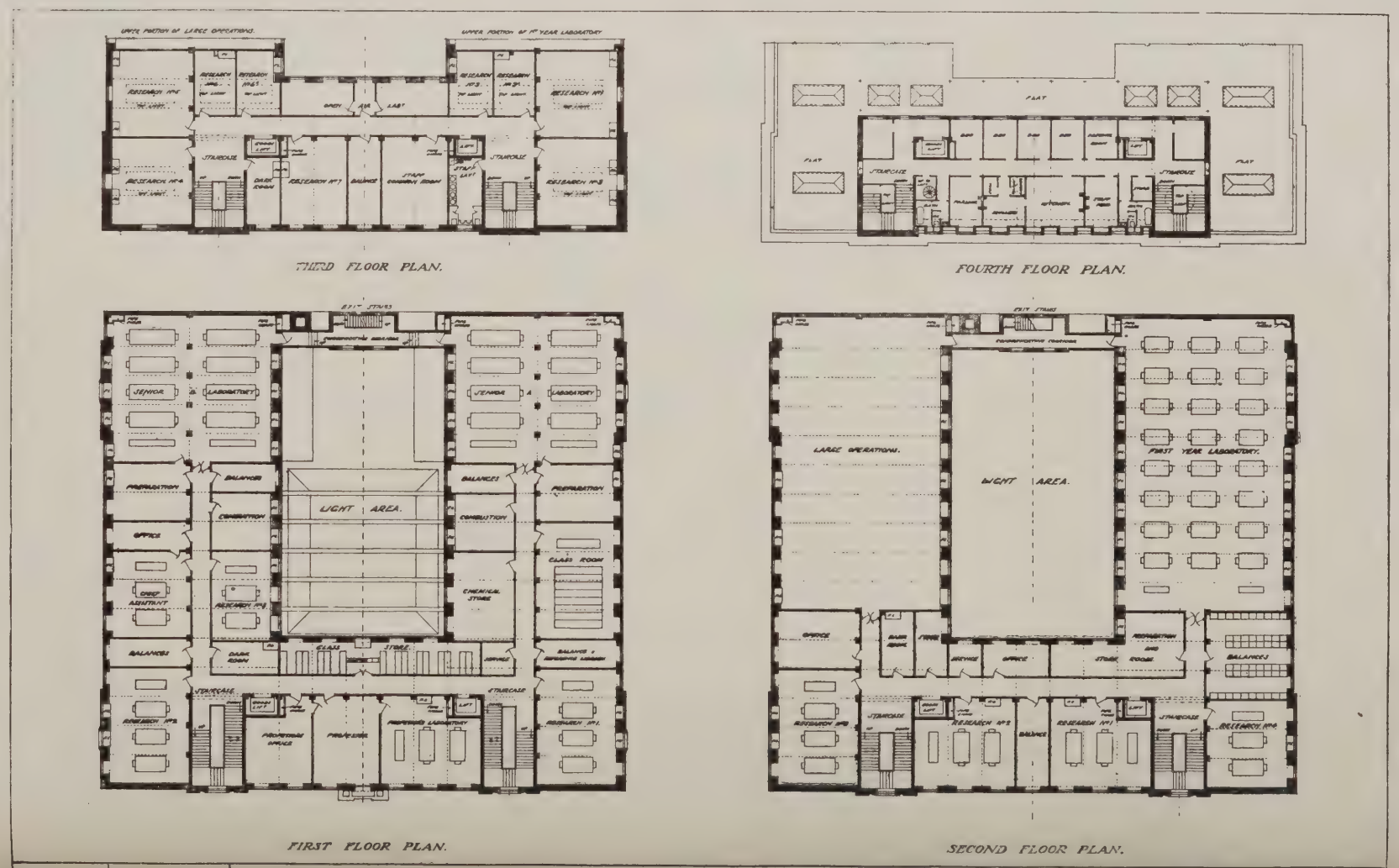
ADRIAN BERRINGTON.

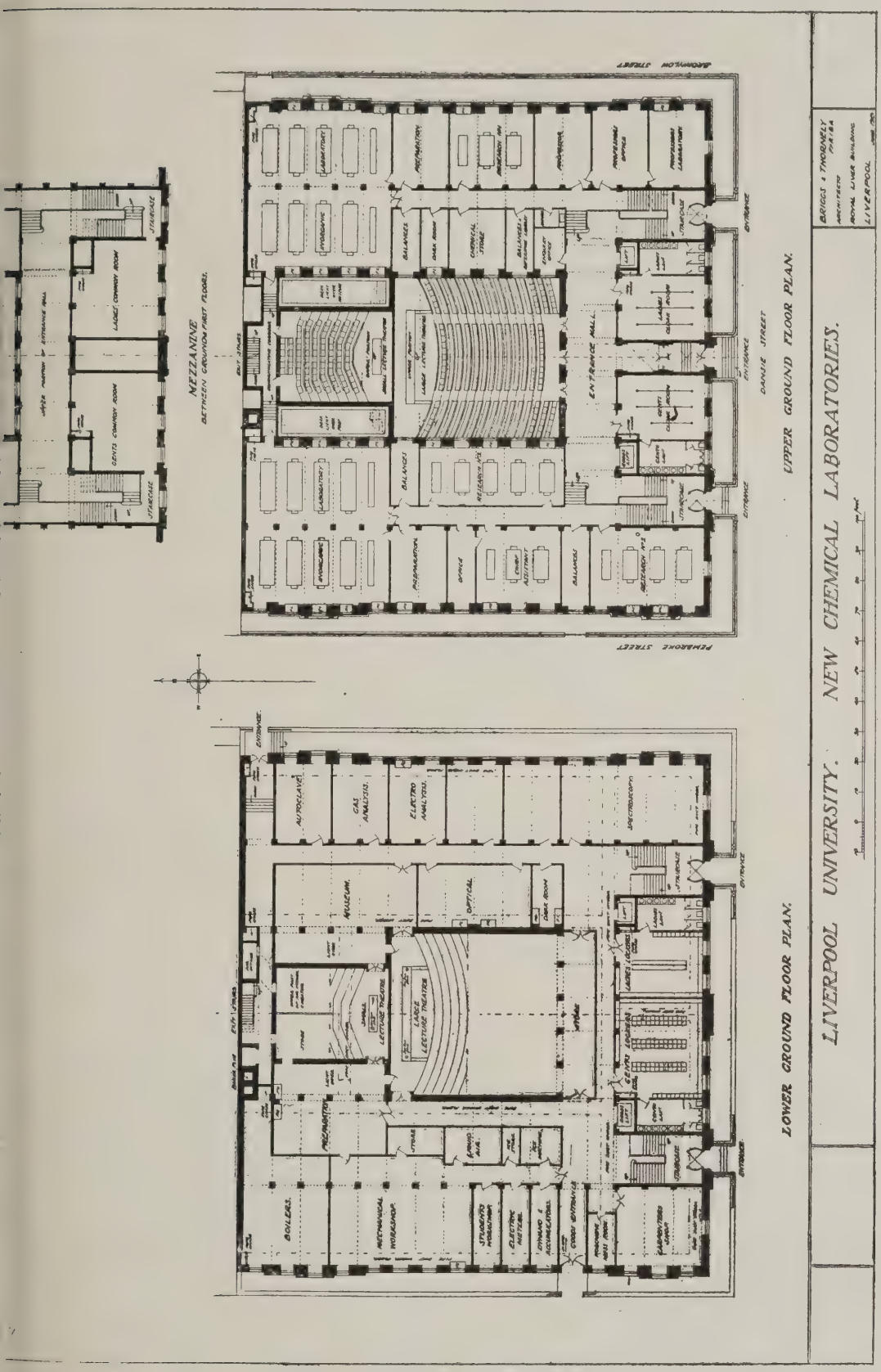


Some particulars of the "Daily Mail" Ideal Village, of which a plan is shown above, were given in our last issue. Mr. Raymond Unwin, F.R.I.B.A., is to supervise the building scheme in order to preserve the congruity of the village.

Architects' Working Drawings. 10.—Plans of Proposed New Chemical Laboratories for Liverpool University

Briggs and Thornely, FF.R.I.B.A., Architects





Compact and straightforward planning, in which all the manifold requirements are well and efficiently provided for, is characteristic of the new chemical laboratories building shortly to be erected in connection with Liverpool University. A full description of the building and its accommodation is given on page 800.

Specifications for Cement Concrete Building

The following specifications for cement ncrete building, approved by the Stan-rdisation and Construction Committee of e Ministry of Health, have just been ued:

Slabs and Blocks

Cement.—The cement is to be Portland, slow-setting quality, and is to comply th the requirements of the current Speci-ation of the British Engineering Stan-rds Committee.

Ballast Aggregate.—The aggregates for ocks and slabs, other than clinker, are be granite, hard stone, or gravel broken various graded sizes and with sufficient an, sharp sand to fill up interstices.

The aggregate for concrete 3 in. thick d over shall pass a ¾-in. square mesh.

The aggregate for concrete 2 in. to 3 in. ck shall pass a ½-in. square mesh.

The aggregate for concrete less than n. thick shall pass a ¼-in. square esh.

Composition.—The concrete for slabs or ocks of various thicknesses is to be com-sed by measure as follows:

3 in. thick and over: 6 of aggregate, in-ding sand, to 1 of cement.

Under 3 in.: 4 of aggregate, including nd, to 1 of cement.

Cavity blocks, with walls less than 3 in. ck: 4 of aggregate, including sand, to 1 cement.

Frogs.—Blocks of ballast concrete may made with frogs, the minimum thick-ss in a 4-in. block being 2½ in., and in 3-in. block 2 in.

Clinker Aggregate.—The clinker must dense, vitreous, free from organic and mbustible matter, well washed and reened to various sizes and mixed with proportion of sand not less in bulk than per cent. and not more than 10 per cent. Coke breeze will not be allowed.

The clinker for concrete 2 in. thick and er shall pass a ½-in. square mesh.

The clinker for concrete less than 2 in. ick shall pass a ¼-in. square mesh.

Composition of Clinker Concrete.—The ncrete shall be composed by measure as llows:—

3 in. thick and over: 6 of clinker and nd to 1 of cement.

Under 3 in. thick: 4 of clinker and sand to 1 of cement.

Waterproof Face.—Slabs or cavity blocks made of clinker concrete if used for external work shall be cast weatherproof with a waterproofing composition in the case of slabs for the full thickness, and in the case of cavity blocks for the full thickness of the outer face; or if not waterproofed the external surface of wall shall be finished with a coat of cement rough cast not less than ¼in. thick.

Sizes.—Blocks or slabs should not exceed 18 in. by 9 in. for 4-in. and 3-in. thicknesses and 24 in. by 9 in. for 2½-in. and 2-in. thicknesses. Plain slabs shall not be less than 2 in. thick for buildings of one storey, and 3 in. thick for buildings of two storey, except in the latter case: where they have approved stiffeners and webs they may be reduced to 2 in. in thickness.

External Walls.—All external walls must be built with two thicknesses of slabs, properly tied together, with a cavity between of not less than 2 in., or with an approved cavity block not less than 8 in. thick.

Mixing.—The concrete is to be mixed on a clean platform, made either of wood or concrete, and turned over dry with a rake and shovel until the colour of the cement is evenly distributed through the aggregate.

When thoroughly mixed dry, it is to be again turned over with a due proportion of water applied through a rose to work it to a sufficiently wet consistency, so that if a handful is taken from the heap and pressed it will retain its shape when the pressure is removed.

Not more than 20 per cent. of water by measure shall be used in mixing clinker concrete.

A mechanical mixer may be employed if no more concrete is made at one time than is required for immediate use. No concrete in which the initial set of the cement has taken place shall be used.

Age.—No blocks to be used for building until they have been properly matured.

Note.—All blocks to be made of their full thickness in one operation.

Concrete Walls Built in Situ

Cement.—The cement is to be Portland, of slow-setting quality, and is to comply with the requirements of the current Specification of the British Engineering Standards Committee.

Ballast Aggregate.—The ballast is to be granite, hard stone or gravel, broken to various graded sizes, the largest to pass a one-inch square mesh and sufficient clean, sharp sand, free from salt, is to be added to fill the interstices.

Clinker Aggregate.—The clinker must be dense, vitreous, free from organic and combustible matter and crushed to pass a half-inch square mesh. It must be well washed and screened before use, and mixed with a proportion of clean, sharp sand, not less in bulk than 5 per cent. and not more than 10 per cent. Coke breeze will not be allowed.

Reinforcement.—Steel cannot be accepted as a reinforcement in concrete made with clinker.

Composition.—The concrete is to be composed by measure of not more than six parts of aggregate, including sand, to one part of cement.

Mixing.—The concrete is to be mixed on a clean platform, made either of wood or concrete, and turned over dry with a rake and shovel until the colour of the cement is evenly distributed through the aggregate.

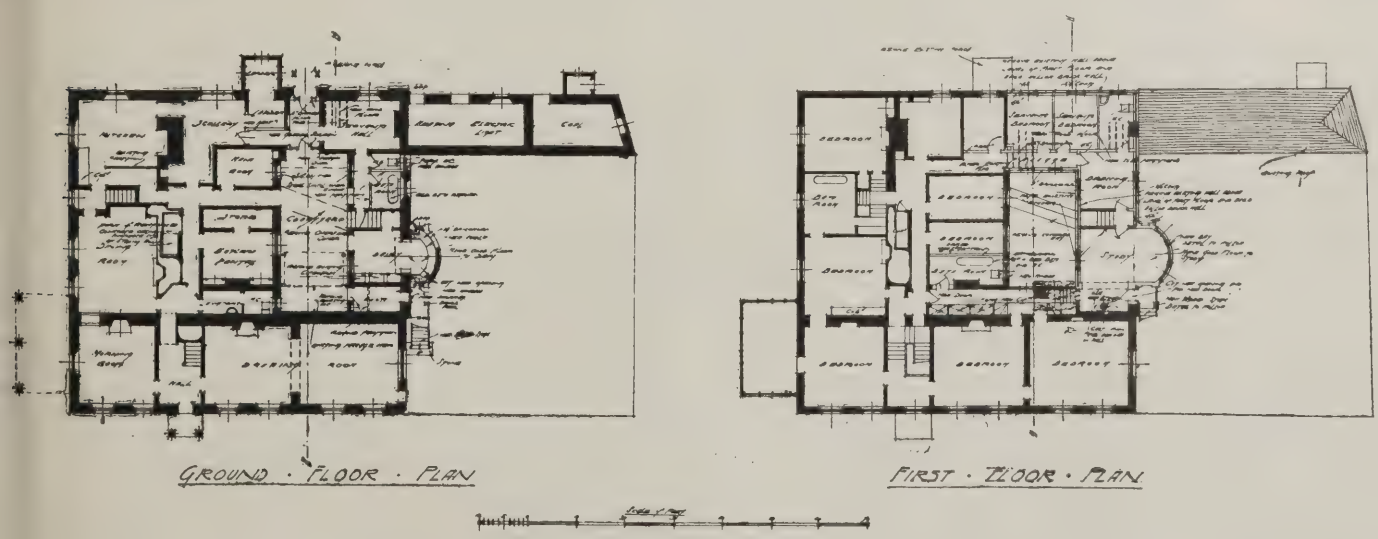
When thoroughly mixed dry it is to be again turned over with a due proportion of water applied through a rose to work it to a sufficiently wet consistency, so that if a handful is taken from the heap and pressed it will retain its shape when the pressure is removed.

Not more than 20 per cent. of water by measure shall be used in mixing clinker concrete.

A mechanical mixer may be employed if no more concrete is made at one time than is required for immediate use.

No concrete in which the initial set of the cement has taken place shall be used for building walls.

Thickness of Solid Walls.—External and party walls of the same composition of concrete throughout shall not be less



REMODELLING OF BLUE HAYES, BROAD CLYST, NEAR EXETER. RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

(See illustrations on page 783).

than 8 in. thick, and internal partition walls not less than 3 in. thick. If the external wall is built partly of ballast concrete and partly of clinker concrete, the inner part of clinker concrete shall not be less than 2 in. thick and the outer part of ballast concrete not less than 4 in. thick, but the total thickness of the wall shall not be less than 8 in.

Where the wall is encased between properly prepared and compressed sheets of asbestos not less than quarter-inch thick, or other approved material, the thickness of the wall may be reduced to 6 inches; but a projecting corbel course of sufficient strength must be provided to carry the wood joists, or other forms of floor construction, for the upper floor. Where the wall is provided with a continuous efficient vertical damp course in the centre of the wall the thickness may be reduced to 6 inches, but the two halves of the wall must be tied together with suitable wall ties every 18 in. in height, the ties to be spaced not farther apart horizontally than 18 in.

Cavity walls.—The walls may be constructed with two thicknesses of concrete not less than 3 in. thick and a continuous cavity of not less than 2 in. wide with suitable concrete or galvanised iron wall ties every 18 in. in height and not farther apart horizontally than 24 in.

Building of Walls.—The concrete should be placed between the forms or shutterings in layers of not more than 18 in. high at a time, carried evenly round the building in horizontal layers and is to be thoroughly well rammed.

No raking or butt joints can be allowed. Before the next layer is placed a thick grout of three-parts of sand to one part of cement is to be poured over the layer previously rammed.

The forms or shutterings are to be kept clean, and are to be removed before the concrete has hardened, in order that the surfaces may be scored for external rendering and internal plastering.

Finishing.—All concrete walls shall be finished internally with an absorbent plaster.

All clinker concrete walls shall be rendered and finished externally in cement rough-cast.

Where the forms or shuttering permit of a smooth external face to ballast concrete walls these can be finished in durable distemper without cement rendering.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended June 12 numbered seventy-two, bringing the total number of schemes submitted to 10,351, comprising about 70,000 acres. The schemes approved now number 6,726, and comprise about 50,000 acres.

Ninety-four lay-out schemes were submitted, and eighty-six approved during the week, bringing the total number of lay-outs submitted to 4,745 and the number approved to 4,155.

House plans representing 7,576 houses were submitted, and plans for 8,361 houses approved. The total number of houses represented in all the plans now submitted is 214,153, and in the plans approved 201,370.

During the week tenders were submitted for 2,542 houses. Tenders for 5,434 were approved, bringing the total number of houses in tenders submitted to 126,165, and in tenders approved to 112,658.

At June 1 1,500 houses had been completed by local authorities and public utility societies, and 1,105 more had been completed except for painting. The total under construction, but not finished at that date, was 18,095 (excluding the 1,105 ready for painting). The number of houses included in signed building contracts was 61,708.

One hundred and eight "subsidy houses" had been certified as completed by June 1. Preliminary certificates, approving plans, had been issued at that date, relating to 9,876 houses, to be erected in the districts of 729 local authorities. These houses must be completed this year or they will not qualify for the full subsidy, which has recently been increased by £50 for houses begun before April 1, and by £100 for houses begun after that date.

Non-Poisonous Paint : Government Report.

The Secretary of State desires to draw attention to the Reports (Cd. 7882 and Cmd. 630) of the Departmental Committees which investigated the danger to workers in the building and coach painting trades from the use of lead paints. As a result of these enquiries, it has been established that quite as satisfactory results can be obtained with non-poisonous paints as with white lead paint (except for heraldic painting and fine lining), and both Committees recommend that (subject to these exceptions) the use of any paint containing more than 5 per cent. of its dry weight of a soluble lead compound (to be determined in the manner specified in the Reports) should be prohibited.

In view of the numerous cases of lead poisoning which have occurred in these trades, the Secretary of State hopes that employers who are still using lead paints will now arrange to discontinue their use and substitute paints which comply with the specification drawn up by the Committees. Only paints of the character recommended by the Committees are now being used by H.M. Office of Works for Government buildings.

It is now twelve or thirteen years since the Department decided to adopt non-poisonous paints for use on buildings in their charge and the results have been satisfactory. It is found that paints prepared on a base of zinc, iron oxide, etc., with proper mediums, afford quite as good protection to wood and ironwork as paints mixed on a lead base, and the risk of lead poisoning to the mixers and users of the paint is thereby eliminated.

The question was raised by the Home Office Committee on paints in 1911 whether it was not also possible to dispense with red and orange lead as "primers" for iron and steel, and to arrive at a decision it was decided to carry out a series of tests at Kew Gardens. These were conducted on about 100 samples supplied by specialist paint firms or mixed to specifications prepared by the Department. They were also tested alongside red and orange lead paints. The pigments used in the samples included lead carbonate, lead oxide, lead chromate, zinc oxide, lithopone, zinc chromate, barium chromate, various iron oxides, graphite, bitumen, with the usual "extenders" barium, sulphate, silica and magnesium silicate, in various proportions.

It was recognised that pigment is not the only factor in the composition of paint, the medium being very important in a protective paint film. Linseed oil is the medium most commonly used in the samples, but this in many cases had an addition of good varnish, Chinese tung oil or tung oil varnish. The samples were all put on duplicate iron plates which had been thoroughly cleaned and dried in the painters' shop, each sample covering an area of about 12 in. by 4 in. After two days one plate was exposed to the weather on a wall facing south and the second plate in the warm, damp atmosphere of a tropical greenhouse. The conditions in this latter case were most severe, as there was always condensation on the plates, and they were often sprayed with water when the plant were receiving attention. The plates were examined once every twelve months over a period of four years by three officers of the Department and marks awarded at each examination.

The best results under the conditions obtaining in the tropical greenhouse were given by the red leads, which gained the first and fourth places on the list, but mixed paints on bases of zinc and lead chromate were second and third on the list, others with iron oxide, lead zinc and barium chromate, and zinc and iron oxide were respectively fifth, sixth, and seventh on the list, and all gave very good results. Most of these best paints had a special medium. The most important tests, however, from a practical point of view, were those of plates exposed to the weather under ordinary conditions. The first places were taken by a black iron oxide paint and a silica-graphite paint—these being bracketed equal whilst another silica-graphite paint was placed second. Lead chromate paints and mixtures of chromate of lead and zinc, zinc chromate and lead zinc and barium chromate also took high places, as also oxides of iron with and without zinc.

The silica-graphite paints were considered suitable for use as "primers" when followed by similar paint. They give no tooth for hard finishings, and when they are used as finishings are liable to rub off where handled, but they are good for bridges, roofs, etc. Red lead paint was seventeenth on the list, under ordinary exposure, thus showing that suitable paint can be obtained that obviate the use of this poisonous material. It should be stated that all the paints referred to were mixed paints as supplied by various makers and the maximum of 5 per cent. of soluble lead as recommended by the Home Office Committee, was not exceeded.

Competitions Open

"Ideal Public-House."

Apply to Messrs. Samuel Allsopp and Sons, c.o. Secretary R.I.B.A. Closing date June 30, 1920.

War Memorial at Lockerbie to Cost £2,000.

Apply to Mr. D. M'Jerrow, Town Clerk. Closing date, June 30, 1920.

War Memorial at Sheffield.

Apply to Mr. W. E. Hart, Town Clerk. Closing date, July 31.

New Wards, Peterborough Hospital.

New wards at Peterborough Hospital X-ray, and other departments. Application to the Secretary of the Infirmary. Closing date June 30, 1920.

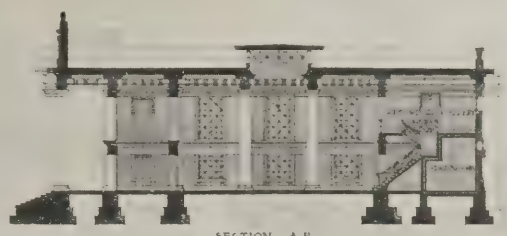
Gloucester War Memorial.

Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the Society that the conditions have been approved by the Council. (Also banned by the R.I.B.A.)

Current Architecture. 25.—Winning Design for New Bank of Bombay, Karachi, India

J. R. Anderson, Architect

EAST AND WEST ELEVATIONS



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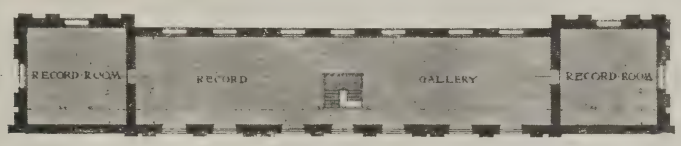
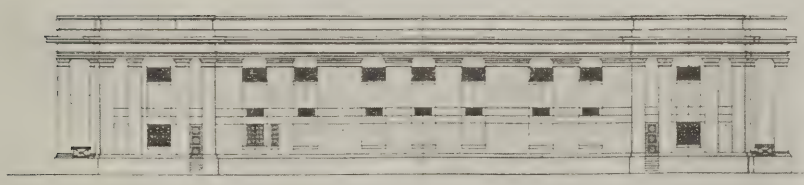
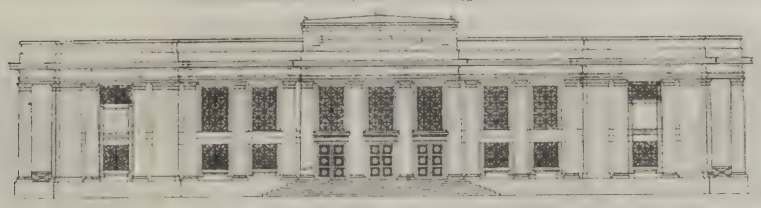


PLAN OF GALLERY

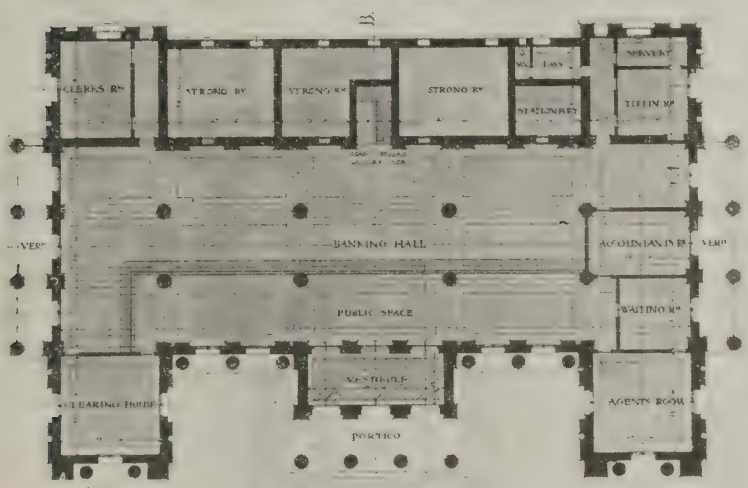


SOUTH ELEVATION.

SCALE OF FEET



FACADE TO WEBB RD



PLAN

The above design, placed first in a competition recently held at Karachi, represents a clever adaptation of the classic style to the requirements of banking premises. Both in plan and elevation the building is notable for its dignified simplicity. It is to be constructed of pink Jodhpur sandstone, with windows and doors of bronze.

Correspondence

Luxury Building

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Some time ago when the announcement was first made by the Ministry of Health that luxury building would have to be stopped, with the object of concentrating the energies of the building industry on houses for the working-classes, the Society of Architects contended that it was unwise and unnecessary to penalise one section of the industry in order to benefit another, and that the same object could be attained much more easily and quickly if all restrictions on building were removed and private enterprise encouraged.

Now that the Ministry of Health is exercising its restrictive powers, and there is a tendency among local authorities to go one better and stop all forms of building enterprise except houses for the working-classes, the Society of Architects thinks it desirable that the public should realise the probable result of this policy and its disastrous effect upon the building industry if continued.

Although architects have been very badly hit by the war, and always suffer from any restrictions imposed on the building industry, yet they would be the first to support a proposal for curtailing unnecessary building enterprises if the carrying out of them would really hamper the supply of houses for the working-classes. Therefore, it is not merely on behalf of the architect that the Society is making its protest, but on behalf of the industry generally, and of the needs of the community.

There are many classes of skilled labour and a vast range of materials, etc., in the building industry which are not required for housing, and by stopping the type of building in which such labour and materials are used many skilled craftsmen would be thrown out of work, and factories, quarries, and works from whence such materials are obtained would practically close down, as would many builders' establishments. Dr. Addison's proposals to penalise one section of the building industry means bankruptcy in many cases, and discontent and unrest in others.

In some quarters there is an impression that the skilled craftsman from the so-called luxury building can be switched on to cottage work, in which none of the materials he is accustomed to handle are used. This may be so in the sense that a skilled surgeon may be quite capable of scrubbing a floor, but the economic waste is too awful to contemplate.

Does Dr. Addison imagine for a moment that the displaced craftsmen or the denalised builders will place their services and plant at the disposal of the Government for housing? If so, he will get a rude awakening; and if he succeeds in getting hold of a few extra bricklayers and carpenters, has he considered that in many cases they will have to be transported to and from the job, and that the greater part of their time will be spent in travelling and not in working, and that the cost of the houses which has already gone up 50 per cent. in the last few months will become prohibitive and impossible?

A little thought will show that restrictions in the building industry must reflect disastrously on the commerce of the country just at a time when extensions and new buildings are absolutely necessary if the commercial supremacy of this country is of any account.

It is typical of Government methods that Dr. Addison is launching his scheme of Housing Bonds concurrently with his proposals for paralysing the principal part of the building industry and thereby checking many other forms of commercial enterprise and preventing a large number of people from subscribing.

The Society of Architects is heartily in accord with the views expressed by Mr. Simpson, the President of the Royal Institute of British Architects, in his admirable letter in "The Times" of April 19 last.

Dr. Addison dismisses that letter as "rubbish," but there are thousands of architects, with the knowledge and experience of the subject which Dr. Addison lacks, who approve and support every word of it, and who are astonished that a professional man of the standing of Dr. Addison can adopt such an attitude towards the members of another profession, whose one object is to place their expert knowledge and assistance at the disposal of the Government in a matter which the profession is competent to handle.

There is no doubt that in some places houses for the working-classes are urgently required, and it is equally certain that in others the shortage is less acute; but discrimination is not an outstanding feature in the programme; consequently, local authorities are simply being coerced by the Government, who appear to be not so anxious about the necessity of the working-classes as they are about the result of the next election.

It is, and always has been, the object of the Society to assist the Ministry in dealing with its gigantic difficulty of coping with the shortage of a certain class of house, and its criticisms are not directed personally against Dr. Addison or his advisers; but the National Housing Scheme is a failure, and a serious condition of affairs is arising with which the Ministry of Health is quite incapable of dealing.

Whilst we all deplore the reasons which have caused the Director-General of Housing to rest from his labours, it would be a wise solution to the present situation if the Ministry of Health prescribed for itself a total cessation of its work, so far as housing is concerned, and handed over the whole thing to a representative body of architects, builders, and operatives, who would see that homes for the people were provided where they were wanted.

EDWIN J. SADGROVE,
President of the Society of Architects.

Architectural Education and Schools of Art

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of June 16 you print a letter under the above heading from Mr. Coombs, the head of the Department of Architecture in the Leeds School of Art. In this Mr. Coombs states that a full-time department of architecture similar to his own has been recently started in the Liverpool School of Art. As a manager of the latter institution I should like to correct this. The courses in architecture at the Liverpool School of Art are called courses in architectural draughtsmanship, and are of a temporary nature—designed to meet the needs of ex-service students, whom it was thought at the time could not be accommodated at the School of Architecture in the University. These courses will come to an end with the cessation of the ex-service students for whom they were founded. They were further meant for students who were not seeking full professional status, but merely the position of draughtsmen in offices, and whose previous educational qualifications did not warrant their admittance to the University in the usual way.

Whether or not a school of art is the right place in which to found a department of architecture in the modern sense of the term, depends, to my mind, on local conditions. Where there is a university in the town it seems a pity that architectural students should not share its benefits with law, medical, engineering, and other professional students. By a scheme of affiliation, of which the modern universities offer numerous examples, the university students in architecture could enjoy such benefits as may accrue by working, for a portion of their time at any rate, in conjunction with painters and sculptors, but to cut them off in their early manhood from all the associations and advantages of a university, and to send them out to the world without the standing of a university degree, is to handicap them and the architectural profession as a whole in comparison with the other professions. I should myself be glad to see the young Department of Architecture at the Leeds School of Art made an integral portion of the University of Leeds.

C. H. REILLY.

Architectural Education

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest the letter from Mr. Arnold Silcock, published in the last issue of THE ARCHITECTS' JOURNAL, under the title "The A.A.: Branch Schools in Provincial Towns" and containing references to the second part of my article on "Architectural Education and Registration," which appeared in your journal on June 2. As the references would appear to show that a certain amount of confusion exists in Mr. Silcock's mind regarding the educational policy which my article advocated, and as the effect of his letter may be to confuse others also as to the points at issue, I shall be obliged if you will kindly permit me to attempt briefly to clarify the position.

Mr. Silcock quotes me as saying that the development of the A.A. School into a London replica of the Beaux Arts, with branch schools in the provinces, would be "less obviously unintelligent" than the "suggestion of handing architectural education over to the universities." Mr. Silcock is under a misapprehension. If he will refer to my article again he will see that what I did say was that the Beaux Arts policy was "less obviously unintelligent" than a policy of laissez faire. The whole object of the article was to show that the academic programme

Correspondence *(continued).*

was the best—the more not the less intelligent—that, in effect, all practicable alternatives were inferior to it.

Misreading the context at another point, Mr. Silcock suggests that I alluded to the A.A. as a "vacuous" institution. On the contrary, I expressed sincere admiration for its work and advocated its full recognition in a Registration Bill. The total absence, however, of that historic and academic heritage which makes the Beaux Arts what it is, does constitute a comparative vacuum; but to state that incontrovertible fact is not to imply that the A.A. or its school is "vacuous."

Mr. Silcock appears to think that affiliation with the A.A. and association with the Royal West of England Academy will give the new Bristol School of Architecture the "status that Mr. Budden seems to find indispensable." Again, Mr. Silcock misunderstands me. The requisite status can only be given by a university. This point also I laboured at great length to establish, illustrating it by the example of the medical faculties. The authority which could have assured a proper prestige for the Bristol School would have been the University of Bristol. No lesser body can do so.

In attaching so much importance to the value of academic status in professional education I do not think that I indulge merely a personal idiosyncrasy. As a profession, architects before the war, during it, and since, have had sufficient experience of the humiliating consequences that lack of educational status entails. And there is evidence that they are beginning to see in which direction the remedy lies.

LIONEL B. BUDDEN.

Conducted Regional Surveys

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—One of the latest phases of education is the regional survey, which has been adopted by some of the more progressive schools.

The surveys are made under the direction of an enthusiastic master, who explains to the pupils as they halt from time to time in their tramp along the country lanes and the streets of towns how England has evolved from the earliest times. These teachings include such subjects as the evolution of roads from cowpaths, the formation of rivers, the strata of the earth and their bearing on vegetation and health, and what will particularly interest the readers of this journal the study of architecture, both domestic and ecclesiastical.

The Natural History Society connected with the Friends' School at Saffron Walden visited Bishop's Stortford early in June, and I had the great pleasure of entertaining the pupils and of listening to a remarkably instructive discourse. It was interesting to hear the master describing the progress of this ancient town, as he pointed out the features of the flint-walled church, the quaint market square with its covered-in structures, the remains of the bishop's palace, which is near the old ford over the river Stort, the half-timbered inns, together with the ruins of the Norman castle.

Such lessons are bound to benefit the country and especially the art of architecture, for it is impossible for anyone to study the various styles of buildings and then be satisfied with the styleless architecture which is so prevalent in England.

Any scheme which inculcates a knowledge of architecture is bound to benefit the architect. I am sure that if the architectural societies were to move for a furtherance of this scheme amongst schools and colleges they would be helping themselves as well as making England a more beautiful country.

J. H. KERNER-GREENWOOD.

The Federated Builders' Code

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have been much interested in the correspondence which has appeared in your journal on the National Building Code. The proposals as set forth in the Code undoubtedly call for serious consideration on the part of architects and quantity surveyors. Mr. Sumner Smith rightly points out that a great deal of responsibility will be thrown on the architects by the Code, and he might also have added that their status will certainly not be improved.

Although the forms of contract, as ordinarily used, are not all that could be desired so far as builders are concerned, and allowing that the builders have reason to ask for a revision of the conditions under which they are called upon to carry out contracts, I agree with the president of the Society of Architects that a much more satisfactory document could have been formulated if the matter had been considered and arranged by a committee representative of architects, quantity surveyors, and builders. The Code is overdone and too one-sided; it sets forth what the architect and quantity surveyor must do, and what they must not do, and apparently leaves the builder to carry on as he wishes.

I am sure that architects will not agree to these proposals, and it is to be hoped that some satisfactory agreement will be come to, as, in my opinion, never was goodwill between architects and builders more necessary than at present.

Mr. Smith points out that it would have been much more equitable if concessions had been made by the builders with reference to work rightly belonging to the architect and quantity surveyor. No one who knows the building trade intimately will deny that persons intending to build can obtain drawings, specifications, and estimates from builders for work the value of which runs into thousands of pounds. By the Code the builders are looking after themselves, and architects may be driven to do the same.

It was recently announced in the Press that the Manchester Building Guild had satisfactorily arranged the terms for carrying out housing contracts, and if the guilds carry on successfully the builders might find that they are not in the watertight compartment which the Code seems to indicate they are attempting to create for themselves.

If the clauses of the Code are to be strictly carried out there is a great possibility of friction arising and upsetting the good feeling which exists between architects and builders.

F.

Post Wanted for Ex-Officer

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Under the national scheme for the employment of ex-officers, I have been asked to look after the interests of Major ———. He was in the South African War, and also served in the Welsh Regiment in the present war, and was wounded by a shell at Maroc in June, 1916. He has, I understand, had experience as a sales manager and manager of a department. Before the war he was works manager with a firm in Manchester. The salary he has in mind would be in the neighbourhood of £350 a year. I should be much obliged if you could see your way to help me in this matter.

WILLIAM G. NEWTON.

[We are very glad to give publicity to the above letter. Readers knowing of a suitable vacancy will perhaps be good enough to communicate with the Editors A.J., or with Mr. Newton direct.]

Enquiries Answered

Combined Sash and Casement Window.

E. G. H. writes: "I am seeking a patent window which is hung sash work and casement combined. The sashes can be lifted up and pulled down as with ordinary box framed windows, and also can be opened inwards, or outwards, as with casements, this latter movement being an arrangement to facilitate cleaning windows high above the ground. Can you give me the name of the manufacturers of such a window?"

—A double-hung sash window, also pivoted for opening inwards and outwards, is manufactured by Messrs. E. C. Burroughs, 59, Gresham Street, London.

"Reminder" for Architects, Etc.

R. S. writes: "(1) Please recommend a 'reminder' for architects about strength, sizes, loads of beams, joists, girders in wood, iron, etc., tiles, roofs, etc., with calculations worked out.

"(2) I propose to build a house, but know nothing of English by-laws. Please give me some information.

"(3) In the price list of materials published in your Journal, are the prices net or is there any abatement? Are they the same for Birmingham?

"(4) Am I allowed to pay workmen more than the trade union rate of wages?"

—(1) We do not know of a book which exactly fulfils your requirements, but we think you would find "Approximate Estimates," by Lieut.-Colonel Coleman, R.E. (published by E. and F. N. Spon, price 10s. 6d. net), very useful.

(2) By-laws differ considerably in various parts of the country. Your best plan would be to consult the local authority of the neighbourhood in which you propose to build.

(3) The prices given in our Journal represent the current quotations by manufacturers. Any discount upon them would have to be the subject of special arrangement. The prices are London prices, and are likely to differ from those operative in Birmingham.

(4) We do not think that the trade unions would object to your giving a bonus to workmen, but it is quite likely that you would experience trouble with employers of labour, who would say that you were enticing men away from other jobs.

‘ Who Would be a Builder ? ”

ollowing are extracts from a pt werful cle on the housing muddle which ap- rs in the current issue of "Ways and ıns" (see also Editorial comment): ıe would-be builder (of houses) has not r to conform to all the requirements of numerous parties which made his busi- s harassing enough before the war, but has also to submit to a mass of rules regulations designed in response, nge as it may seem, to a national desire get more houses. His first set of diffi- ies will be encountered in connection ı his plans; it is no longer possible to .d on the opinion or the authority of a ned architect and a local surveyor— number of new classes of experts have be consulted and pacified. The local ıorities have been so fortified and ngthened by the new powers put upon n that the business of passing plans is ıuch more formidable affair than here- re. The local housing committee will e its own ideas as to what a house uld be, and very naturally considers : it knows more about the matter than prospective tenant. This body will, efore, waste weeks in imposing altera- ıs in the height of the ceilings, the kness of the walls, the nature of the ndations, the cant of the roof, or maybe number of cupboards in the kitchen.

The builder will very naturally do his t to conform to all these requirements, will undertake the arduous work of ring all his plans to that end. This is enough; it causes enough delay; it as a powerful deterrent to building rations, but it is only a beginning. The ns must now go to Whitehall; needless ay, they dare not go direct to White- , they must pass through all the local, nty, regional, district, and divisional ctionaries in order that they may reach itehall with the proper credentials. a builder to attempt to approach the istry of Health would be something a corporal in the Army endeavouring interview the Commander-in-Chief. wever, in due course the plans do arrive Whitehall, and are then subjected to the her criticism of further cranky special- with ideas. The Ministry of Health probably object to the placing of a cup- rd on the inner wall of the kitchen on grounds that a bigger cupboard could provided if placed on the other side. y houses at Addlestone are actually d up at this moment because the Minis- of Health declines to waive its objec- to a cupboard being placed in the 1 bedrooms. The builder will be ky if many of the alterations to his ıs suggested by the Whitehall experts not in direct conflict with the altera- ıs already made to the directions of the l authority. It is, however, possible after three or four months of negotia- ıs plans may be produced which suit whims and fancies of both the local and tral authorities. At this stage the ider will be ordered to produce his cification and his estimate of costs, and se documents will then wend their way ough all the subsidiary departments to august Ministry. The specification the estimate must, of course, be ac- npanied with the plans, and then will ow a number of suggestions such as the ing down of the foundations by a course of bricks, the elimination of sills, the altering of the plan to save an extra doorway; all these points having been raised by men who have never seen the site and who know nothing of the local peculiarities of the job.

"A month may well be wasted in further alterations to the original plan in connection with points that have arisen on the submission of the specification. The next process in this interesting if complicated game is for the Ministry of Health to send the specification to the Building Material Supply Department of the Board of Trade in order that the prices may be checked up with the figures at which this department is prepared to supply the goods. This process appears to be introduced to allow the Board of Trade to carry on its business of profiteering in building materials. It is, of course, quite unlikely that the prices specified by the local builder will in all respects conform to the prices of the Building Material Supply Department. Experience shows that many of the items will be well below official figures; but however that may be, the builder will then be required to alter his estimates of costs to conform to official prices. A licence will then be issued to him by the Ministry of Health authorising him to purchase from the Building Material Supply Department the bricks and other things required for the house which, but for all these negotiations, would have been erected long ago.

"With these facts before them is it any wonder that builders are seeking other lines of business, that they are going wholesale into the manufacture of motors, the promotion of cinemas, or journalism or any other occupation that will have them? If the reader will ask himself whether he would be a builder in these circumstances, he will begin to understand the reason why so little building is being done."

Societies and Institutions

Devon and Exeter Architectural Society.

The annual meeting of the above society, which embraces Devon and Cornwall, was held on Saturday, June 12, at the Athenæum, Plymouth.

The chair was taken by the President, Mr. Lewis Tonar, Exeter, and amongst those present were: A. J. Adams, James Crocker, R. A. Mills, Victor Prigg, W. A. Vercoe, A. G. Bewes, Charles Cheverton, Percy Morris, B. P. Shires, Mr. Whittaker, John Bennett, James Jerman, E. J. May, Basil Stallybrass, and A. S. Parker (Vice-President).

The annual report was presented by the Hon. Secretary, and this, together with the balance-sheet, was read and adopted.

The President delivered his address, and a cordial vote of thanks was proposed by Mr. A. S. Parker, and seconded by Mr. James Jerman, for his address and able conduct in the chair during his Presidency.

The following officers and Council were elected for the ensuing year: Mr. Anstis George Bewes, A.R.I.B.A., President; Mr. James Crocker, F.R.I.B.A., and Mr. A. S. Parker, F.R.I.B.A., Vice-Presidents; Mr. Dobell, Hon. Treasurer; Mr. Allen Pinn, A.R.I.B.A., Hon. Secretary; Mr. A. R. Holman, A.R.I.B.A., Deputy-Secretary; Mr. Lewis Tonar, F.R.I.B.A., Exeter, Mr. Russell Corfield, A.R.I.B.A., Falmouth, and Mr. B. Priestley Shires, F.R.I.B.A., Plymouth, members of the Council. Mr. F. Jerman and Mr. B. Palmer were elected as Associate Members.

The Acting Secretary was thanked for his services.

Subsequently the members adjourned for lunch.

The Concrete Institute.

There was a very large attendance of members and visitors at the Concrete Institute, Denison House, 296, Vauxhall Bridge Road, Westminster, on Thursday evening, May 27, on the occasion of the annual general meeting, and the subsequent ordinary general meeting. Besides the usual routine business of accounts of an annual meeting, the retiring president, Mr. H. D. Searles-Wood, F.R.I.B.A., presented the Institute Bronze Medal awarded to Dr. P. G. H. Boswell, D.Sc., for the best Paper read in the Session 1918-19.

Mr. Searles-Wood then inducted the new president, Mr. E. Fiander Etchells, A.M.Inst.C.E., A.M.I.Mech.E., etc., into the curule chair, the first function of the new president being to propose a cordial vote of thanks to Mr. Searles-Wood for his eminent services during the two years of his office; the vote, ably seconded by Sir Henry Tanner, C.B., I.S.O., was warmly acclaimed by the audience.

After the election of the waiting list of members of all classes (which included, amongst others, Dr. A. W. Brightmore, Mr. G. Topham Forrest, and Sir C. T. Ruthen), Major Halstead Best, R.E., delivered a lecture on "The Mystery Port, Richborough."

Amongst others present were Mr. F. E. Wentworth-Sheilds (past president), Lieut.-Colonel H. L. Lewis, R.E., Major H. J. Shelbourne, Captains A. F. Day, R.E., G D. Roche, etc.

The following is the composition of the Council for 1920-21:

President.—E. Fiander Etchells, A.M.Inst.C.E., A.M.I.Mech.E., Hon. A.R.I.B.A.

Past-Presidents.—Prof. Henry Adams, M.Inst.C.E.; H. D. Searles-Wood, F.R.I.B.A.; Sir Henry Tanner, C.B., I.S.O.; F. E. Wentworth-Sheilds, M.Inst.C.E.; E. P. Wells, J.P.

Vice-Presidents.—Major J. Ernest Franck, F.R.I.B.A.; Charles F. Marsh, M.Inst.C.E., M.Am.Soc.C.E.; Dr. J. S. Owens, F.R.G.S., F.G.S.; and Messrs. E. S. Andrews, B.Sc.; H. K. G. Bamber, F.C.S.; P. J. Black; W. E. A. Brown, A.R.I.B.A.; D. B. Butler; W. C. Cocking; Professor J. D. Cormack, C.M.G.; H. J. Deane; J. S. E. de Vesian; H. Kempton Dyson; Dr. Oscar Faber, O.B.E., D.Sc.; W. A. Green, M.A.; B. L. Hurst, M.Inst.C.E.; W. J. H. Leverton; Major J. Petrie, O.B.E.; F. Purton; A. Scott, M.B.E., A.R.I.B.A.; T. B. Shore; R. H. H. Stanger; H. E. Steinburg; H. J. Tingle; R. W. Vawdrey; T. A. Watson; G. C. Workman, and M. E. Yeatman, M.A.

Architects' and Surveyors' Assistants' Professional Union.

A general meeting of the London members of the above union will be held at 6.30 p.m. on Thursday, June 24, at Caxton Hall, Westminster, to elect a committee to govern the affairs of the newly-formed London division, which will comprise the Metropolitan and City Police areas, the County of Middlesex and the county borough of Croydon. An account of the National Convention will be given by the Hon. General Secretary, and an address by the union's first president, Mr. A. J. Penty, Lic.R.I.B.A. Non-members are cordially invited to hear the case for the union.

Chemical Laboratories, Liverpool University

This building, designed by Messrs. Briggs and Thornely, FF.R.I.B.A., of Liverpool, is to be erected on an excellent site, about 163 ft. by 186 ft., with frontages to Brownlow Street, Dansie Street, and Pembroke Street. The greater part of it will be five storeys in height, with an additional storey over a part of the Dansie Street front, in the centre of which the principal entrance is placed. Two subsidiary entrances giving direct access to the staircases are also provided.

The building will be set back from the street line on three sides, a sunk area being provided, which gives good light and ventilation to the lower ground floor rooms. The general arrangement of the building is of the simplest character, and every endeavour has been made to provide the maximum amount of working space at a minimum of cost consistent with efficiency.

Direct access to the lower ground floor is provided by means of two entrances from Dansie Street, one from Brownlow Street, and a fourth entrance, for heavy goods, from Pembroke Street. On this floor, in the centre of the building, a large lecture theâtre for 325 and a small theatre for 100 students are provided, with a preparation room adjoining and common to both.

In the wing of the building facing Pembroke Street are placed the boiler house, mechanical workshop, carpenters' shops. In the wing facing Brownlow Street the following laboratories are provided: Spectroscopic, optical, electro analysis, gas analysis, autoclave. The remaining rooms comprise a large museum, and locker rooms and lavatories for men and women students.

The upper ground floor is approached by the principal entrance, and two side entrances leading directly into the entrance hall. The hall, which is 16 ft. wide, runs parallel with Dansie Street, and gives access to the back of the large lecture theatre, men and women students' cloakrooms adjoining the entrances, and at either end to the two staircases serving the upper floors. A goods lift and passenger lift are placed near the staircases and run the whole height of the building.

On this floor are also provided two large laboratories for inorganic chemistry, preparation rooms, balance rooms, several research laboratories, professors' and assistants' rooms.

The first floor comprises two large senior laboratories, several research laboratories, preparation, balance, store, and combustion rooms, class room, professors' rooms, etc.

On the second floor a large laboratory for first year students, 94 ft. by 52 ft., occupies the greater part of the Brownlow Street frontage, a laboratory for "large operations," of similar size, being placed along the Pembroke Street front. The remainder of the floor is mainly composed of research laboratories.

Further research laboratories are provided for on the third floor, and on the fourth floor are a caretaker's house and staff rooms.

It is proposed to use reinforced concrete in the construction of the piers, columns, and beams, and the floors and staircases will be fire-resisting throughout.

The exterior of the building will be of brick with stone dressings, most sparingly used. The elevations are of a very simple character, designed after the manner of the Georgian period. It has been felt that in the design of the building utility should have first consideration. If any architectural effect be achieved, it should be by good proportion and the use of suitable materials, and without recourse to elaborate and costly ornament.

A perspective view of the new building is given on page 785; plans are on pages 790-791.

The Inter-Allied Congres

On Saturday, June 5, delegates of th Inter-Allied Housing and Town Plannin Congress travelled from London to Brist on a pilgrimage to Bristol's new housin sites. On Monday, June 7, delegates wer to Well Hall, Woolwich, where the part was received on the site by Sir Fran Baines, C.B.E., M.V.O., the architect o the housing scheme there. After listenin to an introductory description of th scheme, the delegates separated int parties by nationalities, and visited th houses, accompanied by special guides.

On Tuesday the Northern Hom Counties were toured, the Old Oak Com mon estate being inspected, the schemes o the L.C.C., the Hammersmith Boroug Council, and the Acton U.D.C. also re ceiving attention.

A stay was made also at Hayes, Ruislip Northwood, Wembley, and Watfor Great interest was taken in the scheme a Wembley Hill, where Messrs. Callow an Wright are developing an estate of som 400 acres, as well as in the neighbourin estates of the Metropolitan Railway Com pany at Wembley Park and Neasden.

Lunch was partaken of at Watford, stop being made at Welwyn for tea, wher Sir Theodore Chambers received them an explained the project of the Welwy Garden City Co.

On Wednesday the gathering wer afforded an opportunity of seeing wha Birmingham is doing in the question o housing the workers. The Lord May (Alderman W. A. Cadbury), in welcomin the visitors, pointed out that the cost pe house was £1,000.

The delegates later toured Birminghan and were entertained to tea at Bournvill

On Thursday evening the delegates m at dinner in the Connaught Rooms, whe hopes were expressed that at the ne conference the whole world would b represented.

"WINGET" HOUSES ON WEMBLEY HILL ESTATE: VISITED BY THE BELGIAN HOUSING DELEGATES.

ednesday, June 30, 1920 Volume LI. No. 1330

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

DANIEL ASHER ALEXANDER.

Daniel Asher Alexander was born in London in 1768. He was educated at St. Paul's School, and at fourteen was admitted as a student of the Royal Academy. In 1796 he was appointed as surveyor to the London Dock Company and was entrusted with many commissions from Trinity House. His greatest claim to fame is as the architect of Dartmoor prison, completed in 1812. He died in 1846.

27-29 Tothill Street, Westminster, S.W.1.

French Façades. 5.—Detail from the Ecole de Médecine, Paris

J. Gondouin, Architect

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Craft-Guilds, or Cash-Guilds?

THE further we move on the more we go back. To give to the nation "a new vision of creative service" the building trade workers of London and Manchester have reverted to the ancient itution of the Craft Guilds. They throw out a bold llenge to the twentieth century. It is their aim to inate "hired capital" and to form a great industrial ibine for the public service.

No one is likely to quarrel with the ideal. It is not . It does not come to us with the shock or the rm of surprise. The attempt to bring that ideal to test of practice is the only novelty about the scheme. s also its main problem. Unfortunately in this world ideal and the real rarely coincide. Those outside the rmed circle of the Guilds—the employers—are not ch perturbed. Nor need they be. The co-operative vement has been trying for years to do in another se of industry just what the Building Guilds hope to n their sphere. That they have met with some success vident. But the success, viewed from the high hopes he founders of the movement, is a signal failure. expected revolution in our system of trading has come.

Will the Building Guilds do better? Mr. Bernard w in his unconventional play "Pygmalion" supplies most appropriate reply. Yet if these Guilds follow example of their great fore-runners, architects well have cause for gratitude and builders for ight. In the old days the Guilds took a lively pride heir craftsmanship. "Art for art's sake" was no e catchword of the curled darlings of leisure. It was ry real and inspiring rule of life to the workers in the ed trades. That is why most of England's finest sures of architecture are still those wonderful build- of the mediæval craftsmen. Their work was to n more than a means of livelihood. It had to be that, ourse, but it was infinitely more. The tradition of workmanship was handed down from father to son. y had a high standard of achievement, and this nt more to them than the measure of their monetary ard. No one can look closely at a great mediæval ding without finding there all the outward signs of worker's love of his craft. These men must have the artist's soul to have wrought as they did. With m their work came first. If the modern Guilds ve that spirit they will deserve well of us. Moreover, will be giving to an age that seems largely to have its pride in good work a badly needed stimulus.

We are not concerned here with the economics of the ter—the vexed question of the proper relations veen capital and labour. We are interested mainly e artistic possibilities if these Guilds remain true to traditions. What does John Richard Green say it this? In his "Short History" he describes the lations of the Guilds. And he tells us that "a n years' apprenticeship formed the necessary prelude ill membership of any trade-gild." To-day apprenship—especially in the building trades—is almost l. That explains in part at least why the standard of work is so low. Will the new Building Guilds demand an equal qualification for membership? Here is their own statement: "The trade union ticket is the certificate of Guild membership." Not very hopeful, is it? It is significant to find that "the quality and value of work was rigidly prescribed . . . and strict provision made against competition in labour." Will the Guilds of to-day insist upon a proper quality of work? The trade unions do not. We do not ask whether the value of work and the ousting of competition in labour will be regulated, for that is certain. The old Guilds can teach the modern trade unionist nothing on these points. Indeed, they might learn a vast deal from them. Again, the hours of toil were fixed from daybreak to curfew. No one nowadays would demand so exacting a working day. Yet, what a contrast with the forty-four-hour week now expected! It may be that the twentieth century is right in this. No one, at any rate, would wish to see the old wearisomely long hours return. A ten-hour day was uneconomical of energy. But if one of the Guilds is behind time on a contract, will the members keep rigidly to their trade-union hours and allow their Guild to suffer? It will be interesting to see what will actually happen when this situation arrives, as some day it must.

So far the Manchester Guild has got a contract to build houses. The London Guild will doubtless do the same. If the trade union workers are loyal to their chiefs, they will, at least, help the Guilds to carry out their housing contracts. That is all to the good, because any organisation which will guarantee a rapid supply of the right kind of dwelling is doing the nation a signal service. It remains to be seen how the scheme will work. If the Guilds cannot build their houses better than, and at least as cheaply as, the private builder does, they must fail. If, on the other hand, they fulfil their glowing promises we shall benefit in every way. It will raise the standard of work all round. It may, too, give to the trade unionists a juster idea of the dignity and duty of Labour. Always the trade unions have fought for pelf. They have called for cash and let their credit go. Higher pay has been their chief war-cry. To-day we have the vicious circle of higher wages followed by a higher cost of living in a seemingly endless round—as figured by a recent cartoon of a dog chasing his own tail.

Not that the trade unions are singular in this, for it is unhappily an evil that touches all classes. The gold standard, transmuted by our modern magicians into a paper one, reigns alone. Is it not time, for the sake of the future, that a new standard, that of quality, take its place? That seems to us the vital moral of the Guild idea. Let us have high wages by all means, but let us also have high worth. If the Guilds give to labour the added value of a higher standard, the new dignity of the craftsman, proud of his craft, they will have done well. The man who always does his best, not because he is paid to do it, but because he can do no other, is badly wanted to-day. That man is the true craftsman. Will the new Guilds be Craft-Guilds or Cash-Guilds?

CROSSLEY DAVIES.

Notes and Comments

Proposed Building Licence

MONEY, materials, and men were, at first, the needs for national housing. The two former are being progressively met, but men seem to be as scarce as ever. It is stated that though thirty thousand houses are in course of erection there is an estimated shortage of ten thousand men for the work, while eighty thousand houses for which tenders have been approved are held up mainly through labour difficulties. Why is it difficult to get labour? Very many builders, alas! were killed in the war, but this depletion is not sufficient to account for the existing shortage. Complaint is made that contractors engaged on private work are offering higher wages to entice men away from the housing schemes, while the trades unions will not consent to the dilution of labour. Dr. Addison simply dare not attempt to coerce the trades unions, but he threatens to coerce the employers. He is, it was stated—apparently with authority—in last Friday's newspapers, considering the introduction into a general powers Bill of a provision that all private building or repair work must be carried on under licence from the local authority, such licence to be confirmed by the Ministry of Health. More bureaucracy! Less desperate measures would be more effectual. It is no more than kind to assure Dr. Addison that the country is sick of such survivals of war-time autocracy, and that his threats of further coercion—"to consider what further steps, no matter how drastic, are necessary to ensure an adequate supply of labour for the housing schemes sanctioned by his Department"—are likely to involve him in further perplexities, if not in absolute catastrophe, by forcing into active hostility the entire building industry and half the corporations. Dr. Addison seems to have perversely misread the judgment of the Glasgow Appeal Tribunal, in which it was considered that the statute forbidding so-called luxury building justifies a prohibitory order only as a last resort, after conference between the practical men who are concerned with the erection of different classes of buildings, and after the adoption of methods of placing contracts for house building which will encourage the distribution of work in such a way that house building would get its fair share of the available labour. If Dr. Addison were to create in each region building committees in which contractors were fairly represented, such committees having the power to arrange an equitable distribution of labour, he would escape much odium and effect his purpose of obtaining labour for housing. Any attempt to monopolise it for this purpose by adopting drastic coercive measures is bound to fail. Compared with the method suggested by the Glasgow Tribunal it is primitive to the verge of barbarism; is not only irrational but immoral. True, the Glasgow suggestion is not quite free from the odious taint of coercion, but it at least dilutes autocracy. But the only real remedy for all these distresses is to set the building industry entirely free from State control. It may be trusted to right itself without neglecting the obligation of national housing.

The Prince at Canberra

Happy memories of Canberra are rare. In fact, it has remained for the Prince of Wales to provide it with the only agreeable interest in it that we can recall. It cannot be forgotten that when, some eight or ten years ago, the Australian Government organised a competition for laying out a Federal Capital City, the organised architects of Australia complained that the conditions were objectionable, and the R.I.B.A. supported their protest. The Australian Government remained obdurate, with the result that the organised architects of all countries refrained from competing. In 1912 the awards were issued, the winner of the first premium—£1,750—being Mr. Walter Burley Griffin, of Chicago, while the second and third places were taken respectively by a Finn and a Frenchman. The plan is of the type that shows a series of centres with radial avenues, and its author was reported as saying, with no great excess of modesty: "If my plan is carried out in all its details, the Australian capital will be, I think, the most beautiful city in history." Its history, at all events, has not been, up to now, conspicuously beautiful; but the Prince of Wales has redeemed it by his visit to lay the foundation stone of the Capitol, on the summit of Capitol Hill. As we said in 1912, the Australian Government deliberately deprived itself of the best architectural advice, and denied itself the advantage of obtaining designs from the organised architects of the world, simply because it was too stiff-necked to recede from a false position. Then, from the painfully narrowed field of choice, it had perforce to premiate the work of foreigners. The trouble did not end at that, but we will not further recall these "old, unhappy, far-off things." Doubts are now freely expressed as to whether the whole ambitious scheme of creating a new capital city is at all likely to materialise while the Commonwealth, like every other civilised country—what a sardonic description!—is suffering from the economic effects of the war.

The Royal College of Art

South Kensington has been unduly decried by Artists. It has been always a more potent influence for the good of art than they have been willing to recognise, and the persistent drizzle of depreciation from the Press has also helped to neutralise its efforts by shaking the public confidence in its value. To fight against opposition and detraction requires more courage and determination than can be usually attributed to the official mind which commonly sinks under it into a condition of absolute ineptitude. Not invariably, however. To Sir Henry Cole, Sir George Grove, Huxley, and a few other fiery spirits, opposition was stimulating. So may it be with Mr. Will Rothenstein, who has just been appointed Principal of the Royal College of Art. To a clear perception of what ought to be done, he adds the will and the way to get it done; and he is to have a free hand in carrying out his plans for making South Kensington an effective force for the development of the art talent that is in the country, but is allowed to run in great part to waste. If he can prevent this waste and divert also into profitable channels, as it is said he will try to do, the talent that is at present misapplied—in the fine arts, for example, where it fails to command the success that would await it in the arts and crafts—architects will rejoice to believe that Mr. Rothenstein, having the robustly healthy view of his functions, will, in a little while, provide them with a sorely needed race of art craftsmen upon whose intelligence and skill they may depend in the effort to make buildings beautiful within and without. Mr. Rothenstein brings to his task not only great skill as a painter—he received his early training under Legros at the Slade School, and many of his pictures have been purchased for permanent collections of the Tate Gallery type—but, what is more important, contagious enthusiasm and, as a writer in the "Manchester Guardian" puts it, a fertilising influence.

Vermin-proof Houses

At Golders Green a gentleman has, it is said, "caused consternation by actually building two houses," and he caps the performance by making them vermin-proof. He builds his house on a platform of solid cement, and he floats the floors with a cement

which is mixed a preparation that "rats, mice, and such small deer do not find appetising." We should have thought that cement unsophisticated with cunning essences would have secured that effect. We applaud the introduction of the vermin-proof house. It ought to have been invented centuries ago, for the surer avoidance of plague, pestilence, and famine. For not only do the ravages of rats and mice cost us a million or more a year, but they are the carriers of disease from one place to another. A relentless war of extermination should be waged upon them wherever they make their appearance. They are imported wholesale in ships' cargoes, infest the warehouses along the quays, and thence spread inland. They cannot be kept out of any building that is not of the strong-room type; and it is difficult to prevent their permanent residence in a warehouse packed with merchandise. It should not be difficult to keep a dwelling free from them, when it is not, as so often it is, thoughtfully provided on every floor with board and lodging for resident rodents, who can squeak and gibber with impunity in their spacious apartments under the floor, with racecourses round the wainscot, and with free access to cupboard and larder. If these facilities are sternly denied, inhospitable cement is everywhere substituted for edible boards, and no lurking-places beyond the ken of the cat are afforded, Pussy may be trusted to do the rest; the rodents that escape going back to the land, where the farmer is under legal compulsion to destroy them.

The Report on Unhealthy Areas

It was not to be expected that there could be anything novel in a report on unhealthy areas. No disappointment will be felt, therefore, that in the interim report of the Committee appointed by the Minister of Health to consider and advise on the principles to be followed in dealing with unhealthy areas but few fresh data are revealed, while the conclusions reached are all fairly familiar. A more or less definite statement, by the Valuer of the London County Council, that some 549,000 people live in London under unsatisfactory conditions as regards housing, while 184,000 of them live in definitely unhealthy areas, caused mainly by the overcrowding of sites and houses, confirms an item of common knowledge, and the figures certainly do not exaggerate the evil, for which a remedy must be at once provided. The Committee give excellent reasons for their conclusion that multi-story buildings, vulgarly but tersely called skyscrapers, "cannot be considered as making any serious contribution to the solution of the housing problem," and they add the very useful opinion that the erection of skyscrapers "should be subject to severe restrictions, both as to height and proximity to other buildings." But perhaps the most weighty observation in the report is that "it would be useless to hope for improvement in the congested areas if these are allowed to become still more congested by the further demolition of houses to make way for more profitable buildings, and it would appear necessary to take measures to discourage any increase of labour-employing establishments in such areas." They therefore recommend that the development of self-contained garden cities, either round an existing nucleus or on new sites, should be encouraged and hastened by State assistance in the early stages. They recommend that a "Parliament of London," or some new authority, shall have power over a wide area, embracing the Home Counties, to control transport and make financial adjustments between the local authorities. Local authorities should be given powers to declare and regulate congested areas; and it is further recommended that, as a temporary measure, local authorities should be urged to purchase unhealthy areas, make them healthy, and manage them on the Octavia Hill system. Several members of the Committee make addenda to the report. Mr. Ernest J. Brown, for instance, adds some very judicious observations, drawn from his extensive experience of the ways and means of artisans. He notes, for instance, that workers are less concerned about cheapness of fares than about the time it takes to get to their work, and deduces from this the necessity for considering means of transport more carefully than the local authorities building garden cities around London have taken this important condition into account.

Salisbury Cathedral's Seventh Century

Last week was celebrated the seventh centenary of the foundation of Salisbury Cathedral, although the actual date of the ceremony, when, with solemn pomp, the stones were laid, was the Feast of St. Vitalis, April 28, 1220. Not the least of the sweet uses of such celebrations is the attention they call to the fabric. Many young newspaper readers were no doubt surprised to learn, from references to the commemoration, that by common consent Salisbury spire is the most beautiful in Europe, and that the whole cathedral, from its exquisite proportions, the unity of its style, its lightness and grace, stands unrivalled amongst the cathedrals of England. Oliver Wendell Holmes was enraptured with it, and myriads of his compatriots agree with his eulogies of it. We recall that a French traveller of the 17th century noted that it had as many windows as there are days in a year, as many marble pillars as there are hours in the year, and as many doors as there are months. It does not get much flattery either as the Barchester of Anthony Trollope or as the Cloisterham of Charles Dickens. Excavations carried out under the superintendence of St. John Hope and Colonel Hawley exposed the foundations of two earlier cathedrals—those of Bishop Osmund and Bishop Roger. Osmund's building was dedicated in 1092, and Roger enlarged it thirty years later—made, as William of Malmesbury writes, "new the church of Salisbury, and adorned it with ornaments, so that it is inferior to none in England, but surpasses many." Curiously, as Canon J. M. J. Fletcher writes in "The Times" of June 24, the colour of the mortar used—in the one case grey and in the other yellow—shows quite distinctly which was Osmund's work and which was Roger's extension. The same writer reminds us that Dr. E. A. Freeman, who was only a shade or two less great an authority on architecture than he thought himself, considered Roger to be the great architectural genius of his age.

The Thirst for Information

It is a great pleasure to record that during the recent "inter-allied" housing congress, of which the opening meetings were held at the Central Hall, Westminster, delegates from nearly all the countries represented availed themselves freely of the architectural service rendered by and in our reading-room and library at 27-29 Tothill Street. The visitors were of many nationalities, and occasionally the language spoken was outside the rather limited curricula of the English schools, but luckily most of the visitors, having but little English, could speak French fluently enough. The fact that so many English books on town-planning were not only examined, but bought, however, confirmed the idea that many persons who can read a language comfortably enough are very shy about venturing to speak it. Very many questions on architectural, town-planning, and building details were asked and answered, and it hardly need be said that we were delighted to impart all possible information. This is a service that we are always happy to render to the fullest extent practicable, whether the inquirer be native or foreign. Our readers are invited to remember that, within the bounds of reason, we spare neither trouble nor expense to answer legitimate questions on architectural and building-trade subjects, because we are confident that the present demand for technical information is one of the most encouraging symptoms of the present situation.

The Week's News

Change of Address

Messrs. Lanchester, Rickards, and Lucas have removed their office from No. 47 to No. 19, Bedford Square, W.C.1.

New Partnership

Mr. H. V. Lanchester and Mr. Pieter Rodeck, having entered into a partnership for Northern India, have established an office at Lucknow, U.P.

Discoveries at Mycenæ

A fresh examination of the Royal Grave Circle originally discovered by Schliemann, at Mycenæ, has yielded evidence that Mycenæ was an inhabited site at the very end of the Neolithic or the very beginning of the Bronze Age, and has thus added several hundred years to its history.

A New Morgue for Paris

The old Morgue, constructed in 1860 on the island of La Cité, has been found too small, and a new Morgue is in process of construction on the Quai d'Austerlitz.

Mr. Rothenstein's Appointment

Mr. Will Rothenstein has been appointed to be Principal of the Royal College of Art, South Kensington. He is to be freed from all administrative duties and given a free hand to restore South Kensington to its original work.

The Threatened Churches

In "Common Hall" the Liverymen of the City of London entered an emphatic protest against the proposal to demolish nineteen City churches, Sheriff Sir Banister Fletcher moving the following resolution:—"That this meeting of the Livery of the City Companies, in Common Hall assembled, views with great apprehension the irreparable loss the City would sustain by the demolition of nineteen of its historical churches, and emphatically pledges itself to preserve untouched these inheritances of the City of London, around which cluster some of the City's most cherished traditions."

A.A. Annual Election Results

Following are the results of the annual election of officers and council of the Architectural Association for the Session 1920-21:—

President: G. Gilbert Scott, A.R.A., F.R.I.B.A.

Vice-Presidents: W. G. Newton, M.A., A.R.I.B.A., F. C. Eden, M.A.

Ordinary Members of Council: Major H. Barnes, M.P., F.R.I.B.A., C. Williams Ellis, C. A. Farey, A.R.I.B.A., P. D. Hepworth, A.R.I.B.A., Ralph Knott, H. I. Merriman, A.R.I.B.A., J. Alan Slater, M.A., A.R.I.B.A., Arnold Silcock, A.R.I.B.A., L. S. Sullivan, A.R.I.B.A., M. T. Waterhouse, M..C.

Past President: Maurice E. Webb, M.A., F.R.I.B.A.

Hon Treasurer: Stanley Hamp, A.R.I.B.A.

Hon. Editor "Architectural Association Journal": M. J. Tapper, A.R.I.B.A.

Hon. Librarian: G. G. Wornum.

Hon. Secretary: E. Stanley Hall, M.A., F.R.I.B.A.

Recent Acquisitions at the National Gallery

In the course of the next few weeks a number of recent acquisitions will be placed in the National Gallery. The majority of them are from the collection of Mr. Alfred A. de Pass, who very generously offered to present to the nation any pictures in his possession which the trustees and director might select. The pictures chosen include examples of Marco Zoppo, Clouet, Bonifazio, G. D. Tiepolo, Reynolds, Downman, and a portrait by Sir William Orpen. Examples of Arentsz and Diepraem, presented by Dr. J. Seymour Maynard through the National Art Collections Fund, a picture by George Stubbs, presented by Miss Hope, and a little painting by Adam Elsheimer from the Methuen Collection, presented by Mr. Walter Burns, will also be shown for the first time.

Colchester Castle Changes Hands

The Town Council has purchased Colchester Castle for £8,000. The Castle was built by William the Conqueror, and contains the town's collection of antiquities.

Arbroath War Memorial

The War Memorial Committee, Arbroath, have accepted the design by Mr. Washington Browne, A.R.A., for a monument 30 ft. high, and 24 ft. in breadth at the base.

Salisbury Cathedral War Memorial

During the celebration of the 700th anniversary of the laying of the foundation stones of Salisbury Cathedral, the Bishop of Salisbury dedicated the first part of the Diocesan War Memorial, which will consist of a series of coloured windows in the north aisle, to be known henceforth as "The Warriors' Aisle." The pervading ideas of the scheme are "Devotion," "Sacrifice," and "Victory."

London's Housing Problem

The Committee appointed by the Minister of Health to consider the slum problem has issued an interim report, in which the suggestion that overcrowding in London could be remedied by the erection of skyscrapers is rejected as quite unsuitable for a working-class population. Many of the factories now in London might without disadvantage have been placed elsewhere, it is thought, and their removal to garden cities in the country is advocated.

The R.I.B.A. Final Examination

The Council of the Royal Institute of British Architects will, subject to proper safeguards, recognise for exemption for its Final Examination (with the exception of that portion of the Examination which deals with Professional Practice) such schools as have set up a five years' diploma or degree course, which the Council can approve, provided that in judging all designs submitted for the diploma or degree there be two external examiners, approved by the Council, with power of veto.

The Advertisements (Regulation) Bill

In the House of Lords last week the second reading of the Advertisements (Regulation) Bill was moved by Lord Balfour. The Bill is drawn to give power to local authorities to regulate all advertisements on lands and buildings and to prohibit moving or flashlight advertisements and advertisements of a repulsive or demoralising character. Lord Balfour said he particularly objected to the countryside being defaced with unsightly placards. The Earl of Onslow, speaking for the Government, said much more might be done in restricting advertisements if local authorities would make fuller use of their powers. The Home Office, however, thought there were many difficulties in the Bill as drafted, and that it was bound to excite strong opposition. The Government were unable to support it, though they were in entire sympathy with its objects. If Lord Balfour would confer with the Home Office with a view to drafting a Bill which the Government could support the Government might be able to give facilities for passing such a Bill. Lord Balfour said he would accept the offer, and the Bill was read a second time.

(*Continued on page* 828.)

Modern Ecclesiastical Architecture. 7.—Warrior Chapel, St. Saviour's Church, Denmark Park, London, S.E.

Harold S. Rogers and F. E. Howard, Architects

This chapel is in remembrance of the men of the parish who served in the war, 1914-1918. The rood screen is of carved oak, with armorial decorations in the lower panels and the Royal arms on top. The names of the men are inscribed in black on oak panels around the walls of the chapel. The carving was carried out by Mr. T. J. C. Coggin.

Architectural Causerie: On Colour

TWO or three hours before this week's issue of the Journal went to press a gentleman called at Tothill Street and asked that the following letter might be considered, and, if passed, uded in these columns. Upon being asked his name, eplied, "I am merely an admirer of architecture, and e no desire to reveal my identity." The letter runs : "To 'Aero,'—I trust you will not be perturbed to ive a letter from one who prefers to remain anony- s. I am a constant reader of THE ARCHITECTS' RNAL, and not altogether a stranger to the aims and itions of architects in general. Having been struck some pertinent remarks emanating from your pen rding the shortcomings of certain practitioners who o observe decorum in the treatment of new façades e public streets, I venture to approach you on the ect of colour, a theme that has occupied my attention ears.

* * *

Fifty years ago," the letter continues, "when I first e to London from Devonshire, I could not help iring the handsome appearance of the principal ts in the metropolis, particularly the colour and the ral air of prim tidiness. I have lived to see things ge for the worse, and have not failed to notice the r tradition in such matters which seems to be a liar trait of the architects of Paris. When I was a I regarded London as a very handsome city. It is that certain quarters had become degraded and lent. It is equally true that such districts as those ing on the Theobald's Road, the Seven Dials, and Market, to say nothing of Spitalfields and the ct east of the Tower, constituted a reproach to a sed community, but must add that, in my opinion, esidential parts of the town then presented a much r appearance than is the case at the present time.

* * *

The first symptom of impending change in favour of r came when Captain Fowke designed the new ings at Kensington and decked out façades with shings of terra-cotta. I used to pass my time very ently in watching the builders at work on the Albert and the Royal College of Science, and could not expressing the belief that the excellent baked clay ined with brick of sympathetic hue marked an era of ess and reform. Then, without warning, London terra-cotta mad. Some architect—I forget his —persuaded the Duke of Bedford that Russell re needed brightening. Forthwith the furnaces d, and in a few months terra-cotta trimmings d in Bloomsbury, there to be adjusted to Burton's speculations, much to the annoyance and disgust e residents, and particularly to the eyes of Mr. ge Street, who lived in one of the houses.

* * *

ainly I made my protest in the 'Morning Post,' e country at the time was occupied with the subject ee acres and a cow, and no one paid heed to the ation of the five-acred Russell Square or the Field Forty Footsteps. Since that period I have given e to the study of the most appropriate colour for vations of London buildings. I began my studies bserving the painted stucco of Regent's Park, t Street, the West Strand, Belgravia, and Notting It became apparent to me that the buildings of parts were coloured according to plan, a clause in ses stating that the lessees covenant to renew the d exteriors within the month of August in every year, the period being the same for all, and the be that of Bath stone.

"About this time I gave myself definite ideas regarding the value of the drab brickwork of certain districts, where I found the fronts enriched with white paint for the sashed windows, stuccoed bands for string cornices, and dark green doors, the latter treated as exquisitely as the carriage panels of ducal equipages. To my eyes all seemed orderly and proper. When the ghost of Queen Anne was resuscitated by young Norman Shaw, and red brick became the dress uniform for buildings of deportment, much to the chagrin of my old master, Professor Donaldson, I spoke to several friends at the Royal Academy, but they simply pooh-poohed my views.

* * *

"Since that time I have seen things rapidly change. Some eccentric persons, tiring of plain, restful colourings, contrasting with the umbrageous greenery of the foliage, have had their housefronts daubed a brilliant red. Others have favoured chocolate, and not a few have indulged their fancies in various shades of pink; for most people have been taught to look upon stucco as an acrid putrescence. Personally, I am in favour of Portland stone for the more important buildings and for business premises, but I abhor red brick in a stucco district, and there are other peculiarities which do not appeal to my sensitive eye.

* * *

"The other morning, as I was walking down Kingsway, I noticed a smart new building looking quite gay in the sun, and quite expensive owing to the excellence of the Portland stone. If I am allowed to criticise may I say that the red tiles hardly suited the blue ironwork or the pearly whiteness of the stone. This, however, will right itself when the sooty particles settle the harmonic blending of the primary colours.

* * *

"For external effects in this climate architects are limited in their choice of colour. Portland stone fronts can have white painted woodwork, and the iron can be painted a pale blue, light green, or bronze. The skyline of such buildings should be treated simply, and green slates contrast most effectively with a blue-grey or drab sky. In a word, three colours are more than sufficient for the outside of London buildings, and one of these tints must dominate. Buildings in London should be stone-coloured, brick-coloured, red, yellow, or what you will, or painted stucco, to a simple tint, with appropriate contrasting colours for subsidiary portions.

* * *

"In the country there exist similar opportunities for the artist-architect regarding colour. Cottages and farmhouses should appear to blend with the earth and scenery. It is so depressing to encounter buildings starting up from the soil like weeds. In the past it was customary for the builders to tint the rough-cast, stucco, or pebble-dash, in a variety of ways, according to locality, tradition, and local feeling. I have admired the tinted plaster of the houses forming the fishing villages of Cornwall and the West Country, and cannot understand how it is that these lessons of good taste have come to be ignored. I do not desire to walk about in town or country in order to be confronted with odd-coloured butterflies, and I trust you will publish this letter as a mild protest against experiments which tend to lower and degrade taste. Surely we suffer enough from the advertisement fiend without encouraging further digressions in the way of multi-coloured coats."

* * *

My answer to the foregoing letter is its publication in these columns. I had another matter about which I wished to discourse, but colour is an affair of urgency; hence the despatch I have evinced in taking advantage of my correspondent's generous communication. AERO.

Daniel Asher Alexander

AMONG the architect-engineers who flourished a century ago, the name of Alexander is almost unknown to the generality of readers. His works are scattered in various parts of the kingdom, inland and along the coasts, bearing witness to his genius and his faithful service to his country, performed when she was menaced by a powerful enemy.

Alexander was pre-eminently a Londoner, and although in after years he transferred a portion of his affections to the West Country, near the scene of his greatest work, he must be considered as one of the chief members of the talented coterie of metropolitan architects who influenced taste during the reigns of the third and fourth Georges. In London he had a circle of his own, and claimed for his intimate companions Flaxman and Chantrey, with whom he made annual trips to France, and journeyed by diligence from town to town studying, and with such friends breathing an atmosphere of congenial wit. In common with other leading men of the time he rode his horse from one end of the country to the other to superintend the details of his work, was familiar with the time-tables of the coaching era, voyaged by sailing packet to Calais, and lived to witness the triumphs of Stephenson. Meanwhile his lighthouses were guiding the mariner; his docks, wharves, and bridges were in use; and his prisons throbbed with the emotions of thousands, for it fell to Alexander's lot to design the granite stronghold on the heights of Dartmoor and the gaol at Maidstone. He was often called upon to consult with the Corporation of London, the London Dock Company, and the Admiralty Board, and not the least of his services were those rendered as Surveyor to the Trinity Brethren.

The French and American prisoners of war who experienced the rigours of life on Dartmoor never forgot the terrible associations of the place; for the character of Alexander's masterpiece, like that of Dance's Newgate, was the product of the stern necessity of the times. No blame attaches to the architect's work on this score; the problem he was faced with was novel in every particular, and his grim realisation of a prison had in its conception all the imagination and mystery of Piranesi's inventions; and through this medium he was enabled to express the iron soul of the England of our forbears.

Daniel Asher Alexander was born in London in the year 1768, and was educated at St. Paul's School. At the age of fourteen he was admitted as a student to the Royal Academy, and attended the lectures prepared by Thomas Sandby. Such was his zest for architecture that scarce two months elapsed before he was awarded a silver medal. This initial success determined his father to article him forthwith to a Mr. Samuel Robinson, in Finsbury Circus, and while under this architect's care young Alexander was brought into touch with the principles of heavy construction associated with warehouses and buildings of that stamp, which were a speciality of his master's practice. It will be readily understood how this training proved beneficial to him in his future career of architect-engineer. In the last quarter of the eighteenth century the training of an architect was deemed to be a very serious matter, and pupilage of five years or more merely preliminary education. Judging from his subsequent works it is apparent that this young enthusiast was gifted with rare confidence in his own power, for as soon as his term of five years with his master expired he was entrusted to design a house for a Dr. Saunders on Highbury Hill, at that time a fashionable suburban district.

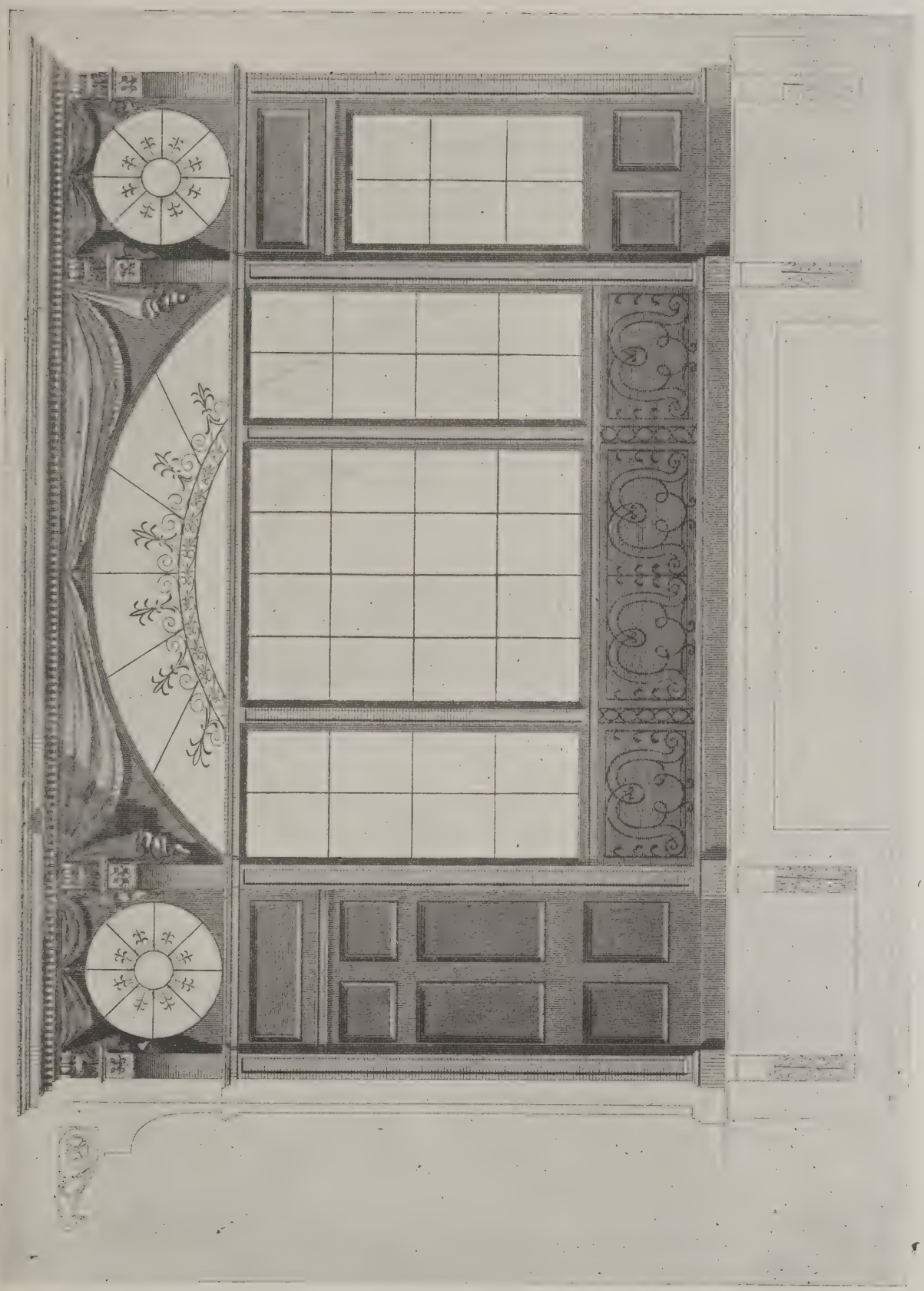
Then followed, in rapid succession, commissions for warehouses at Bankside and in Mark Lane, some of which still exist. At that time, when Alexander was still in his early twenties, he was entrusted by the Trinity Brethren with the widening of Rochester Bridge, a contract teeming with difficulties and necessitating forming the two central arches into one. Nothing daunted, Alexander began operations, and proceeded to form caissons, but as fast as the new piers were built the tide washed away the cement until the safety of the fabric was threatened. In outlining to the authorities the details of this work the architect had warned them that it would be essential to keep the pumps going seven days a week, but they would not forgo their puritanical obstinacy. At last, when ruin seemed inevitable, the architect succeeded in overcoming all objections to Sunday labour, the contract was finished, and the bridge stood for years. In 1818 Alexander prepared a design for a new bridge of five arches, to cross the Medway at another point; but nothing further was done until Mr. Cubitt, the engineer, was entrusted with the work after Alexander's death. Previously, in 1814, he had been engaged with the younger Dance and a civil engineer named Chapman to prepare a report on the state of old London Bridge, which had undergone successive patchings during the second half of the eighteenth century. The City Corporation, however, eventually decided to have a new bridge, which John Rennie designed after his triumph higher up the river.

(To be concluded.)

NEW PREMISES FOR THE BANK OF ADELAIDE, LEADENHALL STREET, LONDON. LIONEL U. GRACE, F.R.I.B.A., ARCHITECT.

Lionel U. Grace, F.R.I.B.A., Architect

New buildings of simple and dignified character are in many parts of the City taking the place of old and unsuitable structures. A recent and notable example is that of which the lower portion is shown above. The building is constructed of Portland stone, and was erected by Messrs. Trollope and Colls. The stone carving is by Mr. L. F. Roslyn, R.B.S. The bronze windows were made by Messrs. Weldon and Co. of Croydon.



This characteristic example of late eighteenth-century shop front design is admirable in its simplicity of conception and refinement of detail. A touch of symbolism may be detected in the draperies that fill the spandrels below the cornice level. The small panes to the three-light window and its fanlight above give a rare touch of character to the front.

Book Notices

"Old Crosses and Lych Gates."

When this book was written, the ques-ion of the most suitable form of memo-ial for our heroic dead was continually resent, the author remarks, and now the nterest and importance of the subject are nore insistent than ever. "Such being he case, it was hoped that it might prove seful to gather together a collection of old rosses and lychgates as affording the most ppropriate form of monuments for repro-uction or adaptation to the needs of the resent."

Tracing the origin of the old crosses, hich are so conspicuous by the roadside nd on the greens of many English vil-ges, he quotes a passage from a writer f the fifteenth century: "For this reason en Crosses by ye waye, that when folke assynge see the Crosse, they sholde thynke n Hym that deyed on the Crosse, and orshypp Hym above all thynge." Its olution, says Mr. Vallance, may be aced through well-defined stages, from e vertical monolith rising direct from the ound, next raised on steps and becoming tapering stem, while its head grows on ther side into the arms of a cross or pands into a lantern-like ornament, riched with sculptured figures and taber-cle work.

The fifteenth-century passage quoted by r. Vallance may explain why crosses ould be erected up and down the coun-, but, then, Mr. Vallance himself tells us at prior to the crosses there were mono-ns, and why many of these were put up on end must be as great a mystery as the Druidical trilithons on Salisbury Plain. What is probable, however, is that these vil-lage monoliths were erected in the market square or on the green in something of the same spirit as a flagstaff is planted to mark a place of meeting.

Our illustration of the Poultry Cross at Salisbury shows it as restored: the original dates probably from the fifteenth or six-teenth century. Similar types are to be found at Malmesbury, Cheddar, and Chichester. Mr. Vallance points out that there is hardly any scope for a great variety of tpyes in lychgates. They are usually found to have been constructed of the most convenient local material. The lychgate at Pulborough, Sussex, it may be noted, is an example of a pyramidal roof, and may be contrasted with the cross-ridged con-struction of the lychgate at Monnington in Wye. Both are square on plan and built of timber.

Mr. Vallance's book makes an appeal, not only to the architect, but to the general reader and lover of the past.

"Old Crosses and Lych Gates." By Aymer Vallance. Pp. 198. London, B. T. Batsford, Ltd, 94, High Ho'born.

A New Book on English Interiors.

The publication on subscription is an-nounced through Messrs. B. T. Batsford of "The English Interior; a Review of the Decoration of English Homes from Tudor Times to the Nineteenth Century," by Mr. Arthur Stratton, F.S.A., F.R.I.B.A. The work, which forms a small folio, may be described as the first endeavour to treat adequately the evolu-tion of the English interior as a whole. The author divides his subject into three main sections—Tudor and Elizabethan, later Stuart, and Georgian—and also de-votes sections to such chief interior features as wall treatment, chimneypieces, doors, staircases, etc. While Mr. Strat-ton has aimed throughout to link his subject with the contemporary social life, the chief feature of the book is the series of over 100 plates which form a panorama of the changing styles of the English home, from the sturdy vernacular timber fashion of the early Tudors to the graceful and delicate classicism of the brothers Adam. These are reproduced from photo-graphs taken specially from many famous houses, and represent the work of nearly all important English designers and deco-rators during three centuries.

"Furniture for Small Houses."

Mr. Percy Wells's designs for simple and inexpensive furniture attracted much attention when exhibited at Shoreditch Technical Institute arranged in a suite of furnished rooms, and were visited by Queen Alexandra. The designs have been collected into a volume, which is pub-lished by Messrs. B. T. Batsford, Ltd., with some additional material, under the title of "Furniture for Small Houses." Mr. Wells's special experience has enabled him to produce designs which are simple, economical, and easy of construction, yet without loss of artistic effect.

THE POULTRY CROSS, SALISBURY.
(From "Old Crosses and Lych Gates," by Aymer Vallance).

The Ventilation of Concrete Buildings*

By EDWARD L. JOSEPH, M.I.E.E., F.C.S.

THE modern trend towards the use of reinforced concrete in the construction of buildings for works, offices, and public institutions calls for very careful consideration as regards the efficient ventilation of these structures. The term "ventilation" will, in this paper, be taken to include heating and otherwise cleaning or purifying the air where the same is required. That the urgency for these considerations arises cannot be questioned, and the necessity for providing a clean and healthy atmosphere for all occupants in which to carry out their respective duties is very real in these days when every possible factor contributing to increased production and general national health or even greater comfort is a matter of the most vital importance both to the individual as an employer or owner and to the community as a whole. The modern concrete building offers in its finished state an ideal structure as regards light, cleanliness, and strength, and an efficient system of ventilation, especially in a works where the nature of the trade carried on tends to vitiate the atmosphere and will have a marked effect upon the vitality of the occupants; and the comparatively small initial cost of a proper ventilating plant is altogether out of proportion to the immediate and lasting beneficial effects that such an installation would have. It is, however, essential that every problem be considered individually, and the author has found during his long experience as a ventilating engineer that in many cases considerable sums of money have been expended upon schemes that have provided almost negative results, entirely due to the inability of the person responsible for the installation to appreciate the fundamental principles governing the successful design of a ventilating plant. Thanks to the comparative simplicity, from a ventilating point of view, of a concrete building, the ventilating engineer can have a comparatively straightforward task in the design of a really efficient system, and it is with details of such schemes that the author proposes to deal. The simplicity of the scheme and the consequent ease of carrying it out will be much accentuated if the work of the ventilating engineer be carried out simultaneously with the erection of the building.

Systems

Generally speaking, there are four outstanding systems in ventilating practice:

1. The plenum system.
2. The exhaust system.
3. The plenum exhaust system.
4. The recirculating system.

The plenum system is the most usual in standard practice, and in conjunction with a proper system of distributing ductwork, perfect results should be obtained. The exhaust system, as its name implies, consists simply of exhaust fans which may operate in direct contact with the air to be exhausted on one side and the open atmosphere on the other, or short lengths of ductwork may be used either on the suction or exhaust side of the fan or both. This system, however, is very inefficient, is liable to cause draughts, and should never be used unless conditions absolutely preclude the use of either one of the other systems. The combined system of plenum and exhaust fans is used where the conditions are sufficiently severe to necessitate some means of additional assistance, without which the plenum fan alone would be incapable of efficiently dealing with the situation. In cinemas, theatres, basement halls, kitchens, etc., this system should in nearly all cases be used with advantage. The recirculating system of combined heating and ventilation is most suitably applied in connection with works and similar large open-spaced buildings. The advantage of this form of ventilation is that the air being recirculated the power expended upon heating can be reduced to a minimum and very good and efficient results obtained. A modification of this system has been devised by the author, whereby a small quantity of fresh air is drawn into the building and mixed with the main volume of recirculated air. This quantity of fresh air can be varied at will between the limits of zero and about 33 1-3 per cent. of fresh air to total volume of air circulated. This is especially valuable in summer time, when fresh air can be introduced without affecting either the cost of operation or the simplicity of the system. In the winter time the volume of fresh air can be reduced, and even on the coldest days the economical running of the boiler plant can still be maintained. In the February, 1920, issue of the "Heating and Ventilating Magazine," published in the United States, appears a very interesting article on Ozone, in the course of which the writer of that article describes the application of a recirculating system similar to one which has been applied to a large school with remarkably efficient results. An interesting application of this system was patented by the author some years ago for special use in extreme climates.

Heat Losses

In determining the capacity of the plant required the following points must be first considered:

1. The total heat-radiating surfaces of the different materials exposed to the air at a temperature lower than that at which the air of the building is to be maintained. This item includes floors as well as walls and roofs.

2. The coefficient of heat transmission for each of these various materials. This unit is expressed in British Thermal Units (B.T.U.) per sq. ft. per degree Fahr. difference of temperature, and varies from 1.2 for common single glass windows to 0.10 for wood or hard ground or concrete.

The co-efficients of heat transmission per degree Fahr. difference for ordinary concrete walls of various thicknesses are given, on the average, as follows:

Thickness of wall in inches.	Co-efficient of heat transmission B. Th. U. per degree Fahr. diff. in temp.
4	.65
6	.56
8	.48
12	.41
16	.35

In regard to heat losses through walls, etc., of reinforced work, no actual data have been available to the author, but the table given would appear to need only slight revision for such, and even these revised figures would naturally vary for each particular system of construction.

Aspect

Undoubtedly aspect is a very important factor in the general efficiency of many classes of buildings. If a site can be chosen where the maximum amount of sunlight can enter the building, it will usually be found that the occupants perform their duties with more cheerfulness than might be the case otherwise. Unfortunately, this cannot be arranged in all cases, and it may be necessary to erect a new building on an old site, probably entirely surrounded by other buildings to a similar height, the result being lack of air and partial absence of natural light. Although the ventilating engineer is not capable of manufacturing sunlight, he can produce perfectly clean, pure, and fresh air, and it is this latter item of air that adequately compensates for the lack of sunlight and renders the atmosphere in a correctly ventilated building healthy and agreeable all the year round and at the same time a most effective insurance against sickness and disease. The aspect also very largely governs the heat losses of any structure, and a building facing north or east must be more liberally catered for by the heating engineer than need be in a similar building facing the other points of the compass. In very exposed positions this difference may easily amount to 10 per cent., and this is a point to be kept well in mind.

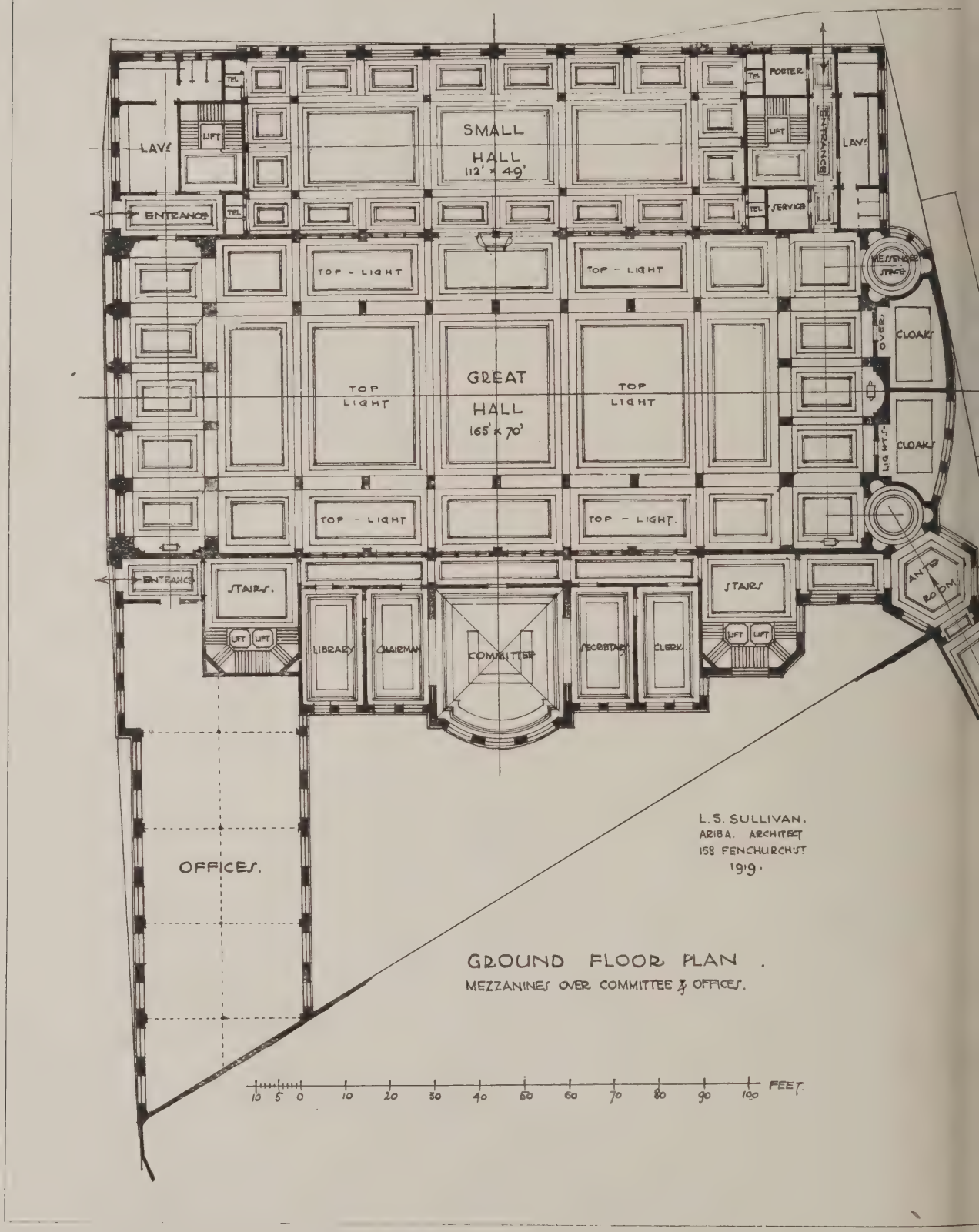
Air Changes

The amount of fresh air supplied to a building is generally expressed in the number of changes per hour or in cubic ft. per minute. Where the number of persons occupying a building is large in proportion to the total cubic contents of the building, say, a cinema, the capacity of the plant should be based upon the volume of fresh air per person per hour required. Public health authorities generally stipulate an average minimum of 1,200 cubic ft. per person per hour, but in cases where the air is purified by ozone, a minimum of about half this amount is in most cases considered sufficient. If, however, the number of persons per unit of space is small, then the best method is to base the calculation on a number of air changes per hour and then work back to the volume input in cubic ft. per minute. The number of air changes will vary from 2½ to 3½ per hour for large modern offices to as many as six for picture theatres, and eight to ten for kitchens, etc. In this connection it is desirable to bear in mind the class of person for whom the ventilation is provided. Take, for instance, an extreme case, the ordinary police court. From professional needs only the author has had experience of a great many of these places. No more difficult problem in ventilation exists, and the greater part of the difficulty is caused as a result of the condition of the clothing and persons of the compulsory visitors and their friends. In this case especially the

*Excerpts from a paper read at the ninety-sixth ordinary general meeting of the Concrete Institute.

Current Architecture. 27.—Plans for the F

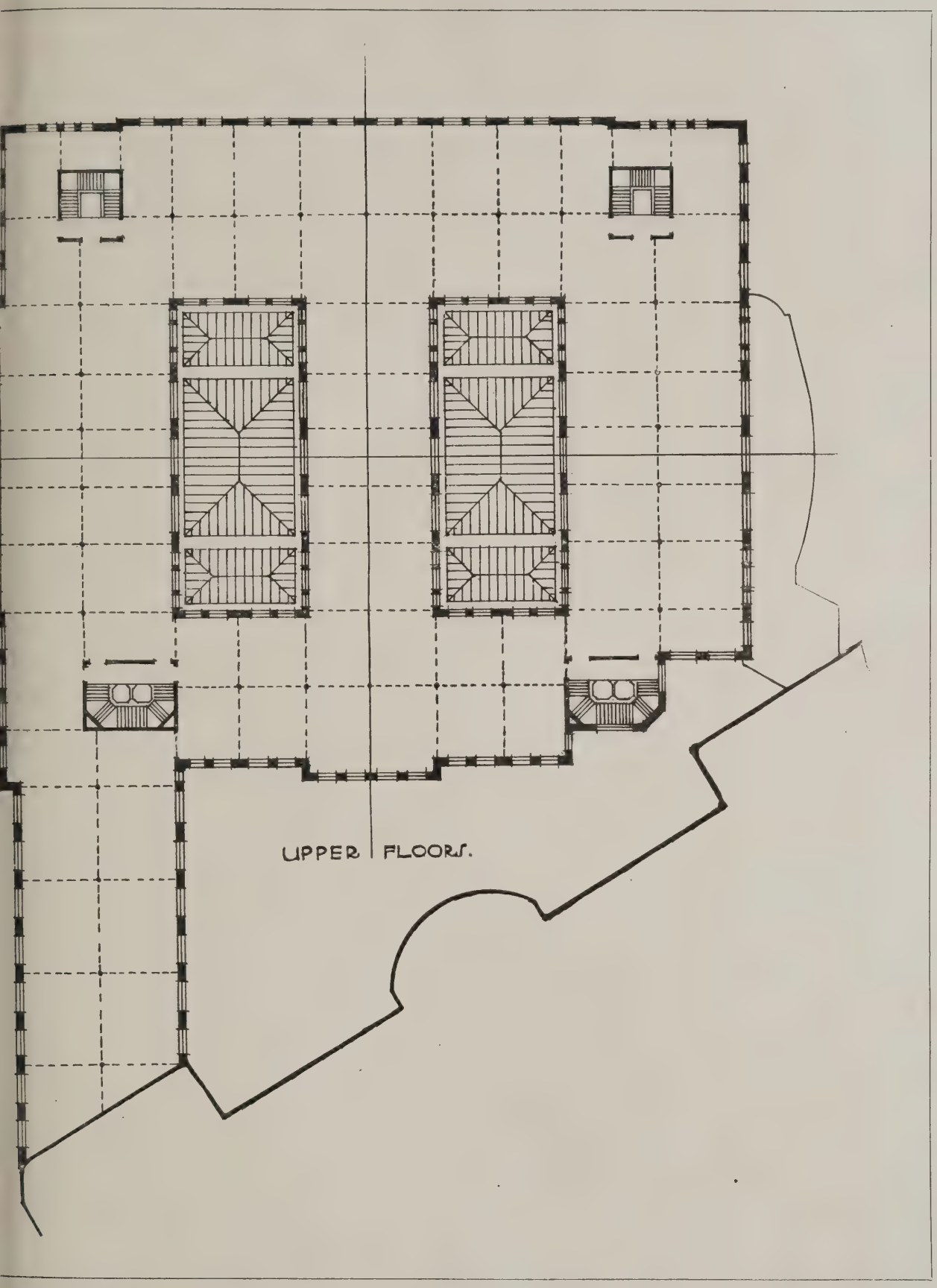
L. S. Sulliva



At the present time many large works of reconstruction are
architects with a very difficult problem in planning, sites being f
ancient lights, and so forth. In these circumstances, it is supr
All the more credit, therefore, to an architect when, like Mr.
the City of Londo

ction of a Building in the City of London

A., Architect



n the confines of the City. Work of this kind often provides
ular shape and subject to awkward restrictions in the matter of
produce anything like a symmetrical arrangement in planning.
ves success. To vindicate Beaux-Arts principles of planning in
able achievement.

ıthor cannot resist the temptation to ılogise the undoubted merits of ozone as purifier and a deodorising agent, and if ıybody interested is wishful to test the uth of this statement let him pay a visit the Blackburn Sessions Court, of course r'ctly in a professional capacity.

Cleanliness

The general cleanliness of a building hich is ventilated by ordinary means is ependent on the class of work carried ıt therein, and also on the source of the r supply. Even in the most modern fice building located in any town, dust ill very quickly accumulate unless carel means are taken to prevent it so doing, ıe most successful being a ventilating heme wherein all the air is cleansed and eed from dirt by some method of air ashing before being distributed into ıe building. In the more extreme cases here the nature of the work itself gives se to dirt or dust, special means must be nployed to deal with it, and fresh air entilation together with, or replaced by, ıst extraction, will in most cases prove ıe remedy. It is sometimes difficult in d buildings to obtain and keep a clean, ıstless condition of affairs, but in a ew building there is no excuse whatever or allowing such a state to continue and ven less for allowing it in the first inance to begin.

Heat Losses

It will be seen from the table given at ıe beginning of the paper that the cofficient of heat transmission expressed in ritish Thermal Units per degree Fahr. ifference in temperature between the ıterior and exterior temperatures is very ıvourable for concrete buildings. The dvantage of this fact shows itself in two ays. Firstly, to obtain a constant workıg temperature such as is usually equired in a factory, i.e., 60 deg. Fahr., ıe heat lost by radiation being reasonble, the boiler capacity can also be ormal in keeping therewith, and the fuel onsumption for heating purposes can be educed to an economical basis. Secondly, nd no less important, the initial outlay or the heating and ventilating plant can e kept within reasonable limits, and a erfectly efficient and modern plant intalled with a minimum of expense. The nterior of the building also will not be ffected so rapidly by sudden changes of xternal conditions, and with reasonable nanipulation of the plant the same averge conditions may be maintained all the ear round. This desirable condition is he direct result of the superior quality of concrete building in regard to what we nay term its "tightness" or "impermebility."

The erection of plant in a concrete uilding offers excellent opportunities for areful consideration by the designer. It nay be quite possible after a structure is ompleted for much unnecessary time and noney to be spent in making suitable proısion for the hanging of electric mains, team or hot-water pipes, and the distriuting ductwork of the air-purifying intallation. If, however, this point be arefully considered while the building is eing designed, both time and money will e saved, in addition to preventing the bjectionable effects from electrolysis and urface disintegration, by having to cut nto the finished concrete. The author is of opinion that by far the best method he has met with for dealing with this question is that one devised by Messrs. Burnard Geen and Brierley, whereby cored holes are left at equal and convenient intervals through all concrete beams so that either hangers can be fixed through these holes for large stuff or the smaller pipes can be passed through these holes as their supports. The former method would appear to be the better, as perfect symmetry results, and the individual erections are readily available for inspection, repair or replacement. This question of erection is really of much more importance than might appear at first sight, and unless such a plan as Messrs. Geen and Brierley's system be adopted, it is easy to conceive of many hundreds of pounds being wasted in needless erection work of a large building, which is, of course, the point of view of the heating and ventilating engineer, quite apart from the incalculable damage which might result from tampering with the permanent structure. In a finished building the usual alternative would be to provide a form of hanger which depends for its support on a clamping action. Another advantage offered by a concrete building is in the erection of the main and distributing ducts. These can most satisfactorily be formed in the concrete itself, thus saving both time and money and obviating the necessity for ductwork appearing on the surface or having to be cased round after erection. The ducts so formed are perfectly satisfactory. The correct co-efficient for the skin friction of concrete must be borne in mind when designing them. A very good example of ducts formed in concrete will be given on a slide on which is shown the ventilating installation of a very large factory.

Regarding the erection of the main plant, this will follow standard practice, although here again expense can be saved if the various foundations be considered in the first place and formed when the floor of the plant room is prepared.

Conclusion

From the foregoing remarks the need for, and advantages of, a correct system of ventilation in and properly applied to concrete buildings will be appreciated. The advantages that the modern concrete buildings offer as regards light, cleanliness, comparative ease of erection and the general "clean" design of the building, make the task of the ventilating engineer a very pleasant one, and with due consideration given to the very important matter of complete co-operation between the designer of the building and the ventilating engineer, an installation can be devised and installed that will reflect credit upon all parties concerned and render a healthy and efficient service to the occupants.

Obituary

Mr. W. M. Fraser.

We regret to announce that Mr. W. M. Fraser, who had been associated with Messrs. Burn Brothers, of Rotunda Works, 3, Blackfriars Road, S.E., for over twenty-two years, passed away on June 9, after a serious operation and only a few days' illness. He had a very wide circle of friends in the iron and building trades, by whom he will be greatly missed.

Alderman A. Bywater, J.P.

The death has occurred at Orrell, near Wigan, of Alderman A. Bywater, J.P., head and founder of the firm of builders and contractors trading locally under the title of Bywater and Sons. Many large building undertakings were carried through by his firm in the Wigan district. Mr. Bywater was 79 years of age.

Societies and Institutions

Scottish Institute of Architects.

The annual meeting of the Institute of Architects in Scotland was held in the Society of Arts Hall, Edinburgh, Mr. William Kelly, LL.D., A.R.S.A., Aberdeen, presiding. The annual statement of accounts showed funds in hand to the amount of £5,280 18s. 2d.

In the course of his address Dr. Kelly spoke of the education of the public to the understanding of the function of the architect, and of the necessity for improvements in the education and training of architectural students. He said that because architecture was really organic building, the architect was first and foremost a deviser of things that were constructed and organised to the point of having become complete and well finished bodies. This view should be recommended for general acceptance by demonstration and teaching.

Mr. Alexander N. Paterson, A.R.S.A., Glasgow, was elected president.

Mr. John Keppie, Glasgow, proposed the toast of "The City of Edinburgh," which was responded to by Baillie Robertson.

Sir George M'Crae, vice-president of the Scottish Board of Health, submitting the toast of "The Institute of Scottish Architects," congratulated them on their successful year's work. He was pleased to see that their energies had not been diverted entirely to their internal or domestic affairs, but that they had been taking an interest in art in its larger sense.

The chairman, replying, said the best way to produce the labour required for housing schemes was not to prohibit other building. The result of that would be to restrict the number of men employed in the building trade, and throw out of work the superior craftsmen whose work was not needed in building schemes. For that reason they welcomed the result of the recent appeal to the Central Tribunal.

The Surveyors' Institution Country Meeting.

The country meeting of the Surveyors' Institution at Gloucester will take place on Thursday and Friday, July 8 and 9.

On the morning of the 8th the members attending will be received at the Guildhall by the Mayor, and papers on "Gloucester" and "The Agricultural Bill" will be read and discussed. Members and guests will lunch together at the New Inn, and afterwards one party will visit the cathedral whilst another will inspect the Gloucester Wagon Company's works. In the evening the institution dinner will be held at the Bell Hotel.

The second day will be devoted to excursions, one party going by boat to Tewkesbury and returning by the same route, stopping at Maismore Park to inspect Mr. J. J. Cridlan's famous herd of Aberdeen Angus cattle.

Another party will make a tour by motor chars-a-bancs through the Cotswolds, stopping en route to visit the Roman Villa and woods at Chedworth, Cirencester Abbey, Roman Pavement, etc., and Lord Bathurst's park and woods.

Glasgow Institute of Architects.

Glasgow Institute of Architects have paid a visit to Stirling and inspected the new Municipal Buildings. There was a considerable number of Members, Associates, and Students present. The architect for the buildings, Mr. J. Gaff Gillespie, showed the party over the premises.

Enquiries Answered

Increase in Building Prices.

E. J. D. (Dudley) writes: "Please say by what percentage building trade prices have risen since January, 1920."

—It is difficult to give information which would refer specifically to the Dudley locality, but the average increase in the London area since the new year has been roughly 27 per cent., which covers increases in wages, freights, and materials (and, of course, loss of efficiency due to higher wages and shorter hours).

Acoustics of Semi-Circular Building.

Correspondent writes: "A building semi-circular on plan with a domed roof has imperfect acoustic properties. The building is used for committee purposes, and the chairman sits near the flat wall butting on the semi-circle. It is 45 ft. in diameter and 31 ft. high to springing of dome. Please suggest some means for improving its acoustic properties, such as with overhead wires, etc. The building is in a hot climate, where through breezes are invited and overhead fans are in use. The walls are of brickwork plastered, floor of teak, and dome of concrete. There is a gallery at a level of 9 ft. from floor."

The chief fault of this auditorium, judging from the notes and drawings given, is its excessive internal volume. This large volume, together with the apparently small amount of sound-absorbing material employed on its walls and fittings, causes a long reverberation which must prevent distinct hearing. Reverberation is the term given to the length of time a sound once uttered in a room takes to die away and is measured in seconds. By volume is meant the volume of air enclosed by the bounding surfaces of the room. The reverberation increases with an increased volume and decreases in proportion to the amount of sound-absorbing material introduced into the room. Using Sabine's formula,

$$t = \frac{0{\cdot}05\ V}{A}$$

where t is the reverberation in seconds, V is the volume in cubic ft., and A is the total number of units of absorption present in the room. In this case, from calculations made from the small drawings given, the volume V is as much as 100,000 cu. ft., the number of units of absorption due to hard surfaces is 280 units, the number of units due to gallery seats (taken at 100) is 195, and allowing for 100 persons present (partly on the floor and partly in the gallery) the number due to the audience would be 634 units. The coefficients used are those given by Sabine for hard plaster, glass, wood, members of the audience, and upholstered chairs. An absorption of 75 per cent. is allowed for the area of open iron grille, and gives 272 units. The total A is therefore on a generous allowance, 1,381 units, and substituting in Sabine's equation the reverberation t is found to be as much as 3.6 sec. In making the calculations every allowance was made in favour of more absorbing material rather than less, and it is probable that 100 persons is more than the average number present, since the hall is used for committee purposes. The figure 3.6 sec. is likely therefore to be a good minimum for the ordinary uses of the room, but even so it is greatly in excess of good acoustic conditions. A reverberation of 3.6 sec. means, of course, that a syllable once uttered will continue for that length of time, and will overlap the succeeding eight or ten syllables. The audience is the greatest absorbing factor in a room, and calculations on the same basis show that when this room is *empty* a reverberation of as much as 5.3 sec. may be expected, and if only a small number of persons should attend in committee there would be a considerably longer reverberation than 3.6 sec. In addition to the long reverberation, it is probable that the concrete semi-dome and barrel vault cause echoes and interference, and they are pretty certain to cause irregularities of sound if a speaker should move his head while speaking. The best remedy would be undoubtedly to eliminate the mischievous volume and mischievous surfaces of dome and vault by running a ceiling across the building at cornice level. A flat ceiling is specially desirable for committee work, for at any moment the relative positions of speaker and audience may change, and therefore a uniform reflecting surface overhead is advantageous. In this case two advantages could result. The volume of the semi-dome and vault constitute together more than a quarter of the whole volume of the hall and account (from calculations) for at least a second of reverberation. By a ceiling at cornice level this volume would be eliminated and the reverberation reduced from 3.6 to 2.6 sec. But even these conditions, though much improved, would not be good. A considerable amount of absorbing material should still be introduced in the form of curtains, carpets, or panels of felt. When the ceiling has been placed approximately 300 sq. yds. of good sound absorbing material is required in order further to reduce the reverberation to 1.5 sec., which could be called fair conditions for a hall of this size. The new ceiling should be of plaster without a finishing coat, which provides a certain absorption. Felt panels could be arranged on the wall surfaces. The felt should be fastened to battens fixed to the wall, and a smooth cloth can be strained over it for the sake of appearance. At present the position of the semi-dome above and in front of the chairman is specially harmful, for it causes reflection back upon himself while speaking. The minimum height of a hard surface which throws back sound immediately on a speaker is 35 to 40 ft. Here the concave mirror of the semi-dome is at least 50 ft. distant, which means that reflected sound from the chairman's voice returns to him after travelling 100 ft., and must cause redundancy.

There is no evidence to show that wires have ever been any use whatever as a remedy, and it is not easy to see how they could be supposed to be so. If it is found impossible to run a ceiling across as suggested, there is only one other true remedy, and that is to line the entire surface of semi-dome and vault with felt on the American system. See Bulletin No. 87 of the University of Illinois, Chapman and Hall, London. The method employed in the Illinois auditorium was to mount the felt on thin furring strips which were bent to fit the curvature of the wall and dome. The felt will eliminate the harmful reflection from the semi-dome and barrel vault and at the same time provide a considerable amount of absorbing material towards reducing reverberation.

H. BAGENAL.

[At the special request of our correspondent, we refrain from reproducing the drawings which he sends. As a general rule, however, enquiries can only be answered on condition that any necessary illustrations shall be given.—EDS., A.J.]

The A.A. School of Architecture

The conditions governing admission t the A.A. School, and other particulars re lating to the new session, which opens o Monday, September 27, 1920, are set fort in a pamphlet, just issued:

Entrance Examination, etc.

All candidates for admission to th school are required to sit for the entranc examination, which consists of the follow ing subjects: I. English composition II. Freehand drawing from the cast; III Mathematics (algebra, quadratic equa tions); IV. Geometry (intersection o solids).

A pass must be obtained in Subject II and in any two of the remaining subjects

The next examination will be held a the Architectural Association, 34-35, Bed ford Square, W.C.1, on Tuesday, July 27 1920.

Entrance Scholarships.

(A) OPEN SCHOLARSHIP.—Value sixt guineas per annum.—This scholarship i open to candidates who are under the ag of nineteen on July 1 of the year in which they compete, and is renewable from yea to year for three years at the discretion o the council.

(B) PUBLIC SCHOOL ENTRANCE SCHOLARSHIP.—Value sixty guineas pe annum.—This scholarship is open to candidates who (i) At the time of application are pupils in any public school recognised by the Headmasters' Conference; (ii) are under the age of nineteen on July 1 of the year in which they compete.

All candidates will be required to sit for the school entrance examination.

A copy of the pamphlet may be obtained on application to Mr. F. R. Yerbury, secretary.

Empire Timber Exhibition

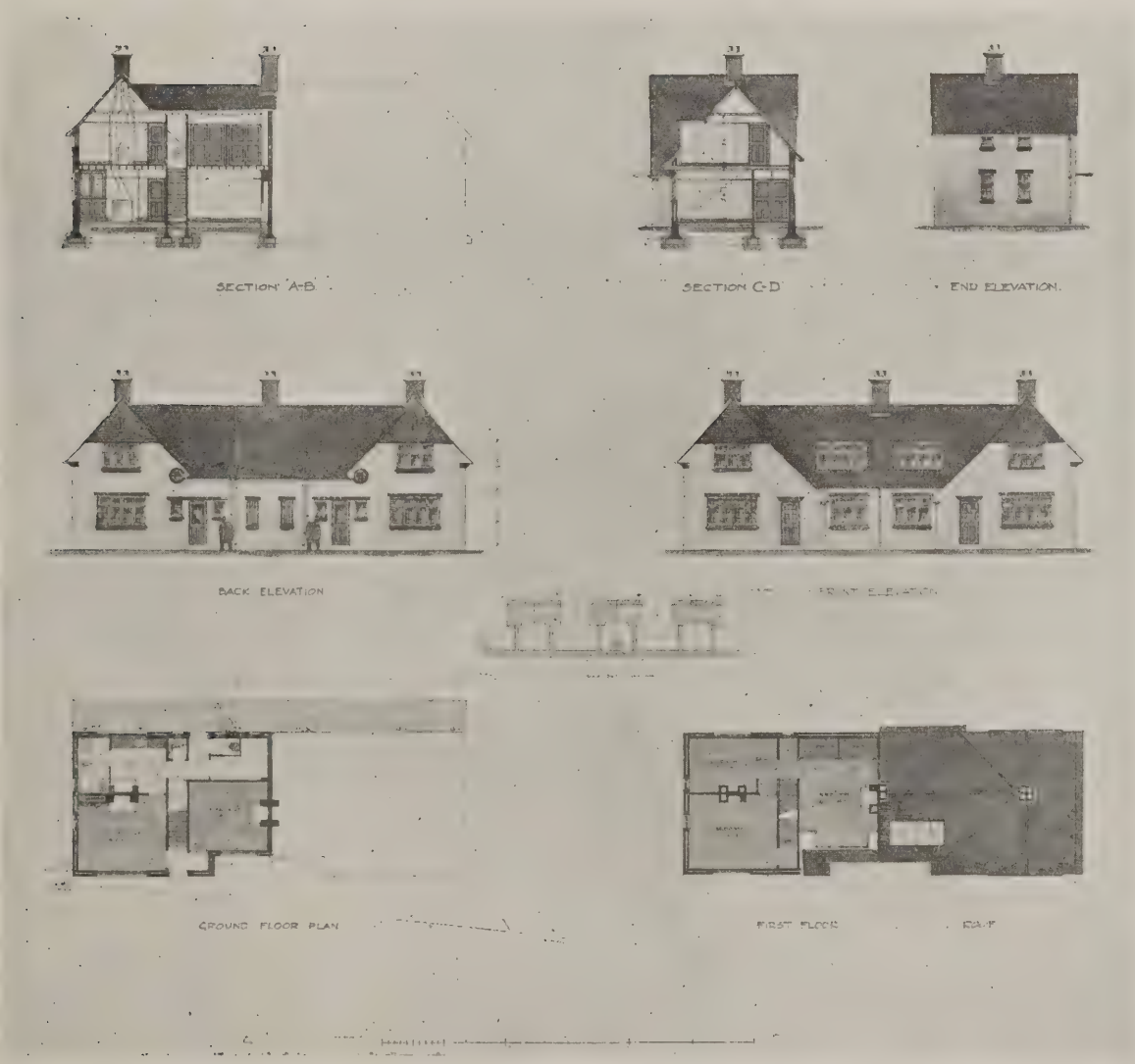
This exhibition will take place at Holland Park Skating Rink from July 5 to 17. The Department of Overseas Trade, in promoting it, aims at introducing to the British timber trade the wide range of timbers grown within the Empire. Many of these are but little known in the United Kingdom. At the same time the exhibition will demonstrate how, under the stress of war, the home grown timbers were further exploited and developed, and the possibilities of larger development in the future.

Practically every timber-growing country in the Empire is represented either by an official exhibit or a private firm or both. The Dominions of Canada, New Zealand, and Newfoundland, the Indian Empire, the Governments of Western Australia, New South Wales, Tasmania, Union of South Africa, the Administration of British Honduras, British Guiana, Ceylon, Gold Coast, Trinidad, Fiji, Nigeria, and East Africa Protectorate are all exhibiting.

Exhibits will be shown both in the rough and in the finished state. A feature of the Western Australian exhibit will be a panelled room and furniture made of jarrah (Western Australian mahogany or everlasting wood). The extraordinary durability of this wood is exemplified by various posts and rafters, which show little sign of deterioration after periods of sixty years in the ground or roof, as the case may be.

Modern Domestic Architecture. II.—Design for Cottages near Godalming

Edwin T. Hall, F.R.I.B.A., Architect



These charming little semi-detached cottages, of which, as may be seen from the plans, three groups are to be built, are of rough-cast outside, with red-tiled roofs. The sills and heads of the windows are of roofing tiles with the nibs projecting. The floors are of wood, the ground floors being laid in mastic on concrete.

Correspondence

Architectural Education and Schools of Art

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—My attention has been called to the letter from Mr. J. G. Coombs, of the Leeds School of Art, on the above subject in your issue of June 16, in which he states that a full-time department of architecture has recently been established in this School of Art.

The department he has in mind is a department of architectural draughtsmanship, temporarily established for the training of ex-Service men, and is not a department of architecture. I shall be glad if you can make this correction in view of the fact that there is a School of Architecture at the Liverpool University.

GEO. MARPLES,
Principal.

Liverpool City School of Art.

Building Guilds

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I was glad to see your appreciative note on Mr. Penty's letter on the Building Guilds, more particularly as I suspect you are by no means converted to the ideas which he has advocated so long and so strenuously.

Fifteen years ago, Mr. Penty published his book on the restoration of the Guild system, and since, as you are aware, the Guild ideas have spread and reached out in many directions, not only in England, but in America. Recently architects have come in for quite a refreshing dose of criticism from the public, but we can, as a body, congratulate ourselves that it is an architect who hammered out from his own personal experiences the outlines of the form of society which is to replace the present one, now in such a dyspeptic condition.

It must be some satisfaction to Mr. Penty, Mr. Orage, and Mr. Hobson, the pioneers of the ideas which inform the Building Guilds, that the Manchester Guild of Builders is now to start building operations.

G. LL. MORRIS.

The Federated Builders' Code

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Sumner Smith, in your issue of May 26, stating the case for and on behalf of the quantity surveyors and their objections to the Code, says "that the greater responsibilities and duties they would have to perform in complying with the Code could be met by an increase in fees." I do not see eye to eye with him on this point, for in my opinion the fees would be adequate and reasonable provided they are not divided between the architect and the surveyor.

As regards "The National Standard Method of Measurement" proposed to be set up, we should desire to know more about it, and whether it was workable before acquiescing in its adoption. The Federated Builders have certainly attempted much by their Code, but the least they could have done would have been to wait until it had met with approval before mentioning it in the Code.

JEROME.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest the articles on the Federated Builders' Code by Mr. T. Sumner Smith. There is little doubt that the builder in the past has been unfairly dealt with. The architect has had too much power and too little responsibility; but the builder has now taken a stand, and the Code is the result. If adopted the Code will at any rate tend to keep a man to his own profession. The builder has suffered too much from quantities emanating from the same source as the drawings, and in numerous cases prepared by inexperienced persons, who, nevertheless, have been paid the full fees for work only half done. In future the builder should at any rate get accurate and reliable quantities, and along with a national system of quantity surveying the wide margin between the lowest and highest tender will disappear.

"BUILDER."

York.

Competition News

Messrs. Marsh, Jones, and Cribb's New Premises, Leeds.

In the architectural competition recently promoted by Messrs. Marsh, Jones, and Cribb, Ltd., of Leeds, more than 170 leading architects applied to compete, and a selection of thirty-one architects sent in schemes. These thirty-one architects consisted of twenty-five from the British Isles and six from New York, Toronto, and Philadelphia respectively. The assessor, Sir John J. Burnet, R.S.A., LL.D., has now made his award, the successful competitors being Messrs. Cackett and Burns-Dick, Pilgrim House, Newcastle-on-Tyne.

War Memorial, Liège.

The province and town of Liège are to erect a monument commemorating the defence of Belgium against the German invader. A sum of 1,000,000fr. has been subscribed for the project. The design for the memorial will be decided by a competition open to architects and sculptors of Belgium or the Allied Powers. The conditions of the competition will be forwarded free of charge to any qualified applicant on receipt of a request addressed to M. Léon Maréchal, Bureau des Beaux-Arts, Hotel de Ville, Liège, Belgium. A map of the selected site will be sent on receipt of postal order for 5fr.

Henry Saxon Snell Scholarship.

The subject for the Henry Saxon Snell Scholarship, 1920, will be a "Home of Rest for Aged Poor." Designs to be sent in on July 1. Further particulars from the Secretary, the Architectural Association, 35, Bedford-square, W.C.

Gloucester War Memorial.

The Competitions Committee of the R.I.B.A. desire to call the attention of Members and Licentiates to the fact that the conditions of the above competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members and Licentiates are advised to take no part in the competition.

How to Eliminate the Smoke Nuisance

There are two main sources of air pollution by smoke—industrial and domestic. It is with the domestic aspect of the smoke question, in particular reference to the present housing situation, that a short interim report, now published by the Ministry of Health Committee on "Smoke and Noxious Vapours Abatement," is concerned.

There is no law forbidding the burning of raw coal, and there are a million new houses to be built in the next few years. The Committee realise that "prevention is better than cure." They feel strongly that the new houses must not perpetuate the smoke evil; "a unique opportunity for constructive reform" must not be lost. Accordingly the Committee have investigated various ways in which heat can be supplied to the new houses smokelessly, that is to say, without burning raw coal in domestic grates.

The Committee are not wedded to any particular scheme of domestic heating as universally applicable, but they show that practicable hygienic and economical methods are available for supplying the requisite heat, and they recommend that sanction to housing schemes submitted by local housing authorities or public utility societies should be conditional upon the provision of smokeless methods of heating as suggested in the "conclusions" of the report, which are as follows: "Certain general conclusions emerge from the data before us, which we may usefully summarise, as follows:

"(1) The witnesses whom we have heard have, almost without exception, condemned either explicitly or implicitly the old-fashioned kitchen range and back-boiler as inefficient, wasteful of fuel and labour, and productive of smoke. Subject to the opinion previously expressed with regard to the future possibilities of electricity as a heating agent, we think that wherever a supply of gas is available a gas cooker should be installed in lieu of a coal range.

"(2) The cheapest and most efficient method of providing a supply of hot water where a central supply is not practicable is by a coke-fired boiler.

"(3) A central hot water supply for detached houses, where practicable, is a desirable system if it can be provided at a moderate cost. Practical experiments in this direction are urgently needed and should be given every encouragement.

"(4) For tenement houses a central supply of hot water is quite practicable and should be provided universally.

"(5) The system of installing separate central-heating plants in each house heated by coke or anthracite should be employed far more widely than is at present the case.

"(6) As far as practicable gas fires or hot-water radiators (or electric radiators subject to the question of cost) should entirely supersede the old-fashioned open coal fire, adequate means for proper ventilation being provided.

"(7) We are aware that there is still a strong prejudice in many quarters in favour of an open coal fire, and we therefore limit our recommendation to this extent, namely, that in none of the houses built with the assistance of the Government subsidy should more than one, or, in exceptional circumstances, two coal grates be installed.

Law Reports

Claim for Dilapidations

Marischkine v. Wortman.

[June 9. Official Referee's Court. Before Mr. G. A. Scott.]

In this action, which was the first heard by the newly-appointed High Court Official Referee in place of the late Mr. Muir Mackenzie, the plaintiff claimed damages for the dilapidations of a building in St. Mark's Road, North Kensington, called Badminton Hall.

Mr. Raynor Goddard appeared for the plaintiff and Mr. R. J. Willis for the defendant.

The plaintiff, it appeared, built the hall in 1908 to be used specially for the game of badminton and for wedding receptions and dances. In 1917, the occupation for these purposes being at a discount, the defendant who was a manufacturer of what were called nurse-balloons which were used by the air service, wanted the premises for the purposes of this work, and the plaintiff agreed to let them to him for a period of one year, under an agreement, at a rental of £300, and plaintiff now claimed £180 in respect of neglect to repair in breach of a contract of the agreement of tenancy.

The agreement was that the premises were only to be used for the purposes of the manufacture in which defendant was engaged, and that he should at the end of the term deliver them up in as good a state of repair as they were in at the commencement of the term.

The defendant disputed liability as to some of the items of claim and alleged overcharge in regard to those which he did not dispute.

The evidence in support of the plaintiff's claim occupied the whole of the day, at the close of which the parties arrived at a settlement of the action, the terms of which were that the defendant should pay to the plaintiff £250 in settlement of the claim and the costs of the litigation.

Builder's Action for Work

Vare v. Beadal.

[June 11. Official Referee's Court. Before Mr. E Pollock.]

In this action Mr. Wm. Edmund Vare, of Burkes Cottage, Beaconsfield, Bucks, carrying on the business of builder under the style of Vare Brothers, sought to recover £1,114, balance of an account of £3,114, from Mr. Maurice Beadal, of 79, Gresham Street, E.C., in connection with the work of converting his house at Albert Road, Regent's Park, into flats. Plaintiff also claimed interest on the unpaid balance.

Mr. Colam, K.C., with Mr. Foster, appeared for the plaintiff, and Sir A. Richardson was counsel for the defendant.

The defendant disputed the authority of the architect (Mr. Saunders) to give orders to the builders for work beyond £2,000, which amount had already been paid, and said that any orders given beyond that amount were in excess of authority, for which the defendant was not liable. It was alleged that the arrangement with the builder was that the work should be done upon the basis of 20 per cent. beyond the cost of materials and labour, and it was pleaded further that the cost of the work having exceeded £500 was, by order of the Ministry of Munitions, prohibiting the commencement of the carrying out of building or construction work costing more than £500, irrecoverable.

Mr. Colam said that the claim was for work done, not under a contract, but upon instructions given from day to day to the builder by the architect (Mr. Saunders), whose final certificate brought the amount up to £3,165, of which plaintiff had received £2,000 on account, but by an amended certificate the balance was reduced to £1,114. The plaintiff was never told that there was a limit of £2,000. As to the defence that the work was done in contravention of the order of the Minister of Munitions, counsel said if it was wrong of the plaintiff to do the work it was also wrong on the part of the defendant. It could not be said that the plaintiff knew what the work was going to cost, because he did it in accordance with orders given by the architect at different times. Under these circumstances the onus of proof was upon the defendant.

Sir A. Richardson accordingly opened the defendant's case, submitting that it was upon the person who did the work to show that he did it under a contract which was legal and enforceable. The substantial defence to the action was that here was a limitation imposed upon the architect, and that that limitation was well known to the builder, who, in spite of that knowledge, had exceeded the limitation by over £1,000.

Mr. Maurice Frederick Beadal, the defendant, gave evidence in support of his case, and in the result the Official Referee disallowed the claim for interest on the ground that the sum claimed originally exceeded the amount found to be due, but gave judgment for the plaintiff for £1,094, with costs.

Builders' Claim : Question of Bar : Important Judgment

Cuddon v. Robinson.

[June 15. Official Referee's Court. Before Sir Francis Newbolt, K.C.]

The Official Referee delivered a reserved judgment in this case, which raised the question whether a builder's claim for balance of a charge of £609 to the amount of £80, being for work in excess of the sum of £520, was not rendered irrecoverable by the Order of the Ministry of Munitions, sanction not having been obtained as required by the Order of 1916. A second point raised was whether the installation of electric lighting, by which the total was brought over the £500, could be regarded as decoration.

The plaintiffs were Messrs. Cuddon and Co., builders, of West Norwood, and the defendant Mr. Henry Taylor Robinson, of Dulwich.

Sir Francis Newbolt, in giving judgment, said it had been pleaded in defence that the contract was illegal under the Defence of the Realm Regulations, that the prices were excessive, and the £520 which defendant had paid was sufficient. It was abundantly clear that when the contract was made it was thought by both parties to be a smaller job than it had turned out, although even now, including the cost of electric lighting, it scarcely exceeded the limit of £500 named in the Order, and it was clear to his mind that in this particular case the total cost of the whole completed work in contemplation relating to repairs and decorations never exceeded £500. That defence, therefore, failed. On the question of costs, Sir Francis said that the case was a proper one to be tried in the High Courts, and although defendant had reduced the claim, the expenses had been increased by the defence of illegality. He, therefore, gave judgment for the plaintiffs for £21 5s. 3d., and ordered the defendant to pay to them half of the taxed costs on the High Courts scale.

A Modern Method o Fire Extinction

Of all the destructive influences which buildings and property generall are liable fire is perhaps the most devasta ing and difficult to counteract. War ha been waged against it for countless age and although human ingenuity has bee constantly occupied in contriving practic means for limiting its ravaging effects, th dread scourge still remains a most poter source of danger and loss to the commu nity.

The problem is of particular moment t the architect at the present time, whe commercial development necessitates a vas increase in new construction. It has in deed become one of his chief duties to pro vide, as far as is humanly possible, ade quate protection from fire hazards for th buildings he carries out, and thus it i clearly imposed upon him to exercise th utmost vigilance in examining the man new devices for extinguishing fires whic are introduced by inventors from time t time. Among these may be mentione Foamite—a chemically produced substanc of a foamlike consistency—which has th effect of choking or smothering fire by ex cluding the oxygen necessary for its con tinuance.

A demonstration of the possibilities o Foamite as a fire extinguisher was recentl given on the testing ground at Victori Park of Foamite Firefoam, Ltd., of 4 Broad Street Place, London, E.C.2, a which the directors invited a representa tive of this journal to be present. The following brief account of the proceeding will, it is believed, prove of interest no only to architects, but also to contractor and surveyors.

It will be convenient here to say a word or two respecting the properties of Foam ite before describing the actual result produced by its agency. Briefly stated Foamite solutions generate about ten times their own volume of carbonic acid gas, confined in tough, durable bubbles o foam, which can be easily and quickly dis tributed over an extensive surface of any kind. The effect of this is to hold directly on the fire for a considerable period o time a blanket of fire-smothering gase which cannot be dispersed by the wind o sucked away by draught.

There are three types of apparatus for directing Foamite on to the fire, these being:

1. A three-gallon bucket, producing twenty-four gallons of Foamite, equivalent in capacity alone to eight ordinary fire buckets.

2. A two-gallon hand extinguisher of cylindrical form, producing twenty-five gallons.

3. A thirty-four gallon engine on wheels, producing 320 gallons.

The first test consisted in extinguishing lighted petrol in a sheet-iron tank, measuring 3 ft. by 2 ft. by 6 in., into which was poured pure petrol until it reached a height of one inch.

For this experiment the hand extinguisher was employed. On inverting the cylinder a stream of Foamite was ejected from the nozzle with considerable force on to the flames, which were completely overcome in forty seconds.

A wooden platform was next flooded with petrol and set alight. By using the bucket apparatus, and casting the contents

ı the burning mass, the fire was at once tinguished.

This platform was then reared on end in vertical position, and the Foamite stream rected to its surface to show how, by inging to it, a protective coating was ıtainable.

Test No. 4 was the chief event of the ternoon, and in preparation for it a conete tank 9 ft. by 9 ft. by 3 ft.—tar-coated ternally—had been built in the centre of e ground and level with it. This tank ıs two-thirds filled with fuel oil, to which quantity of petrol was added just before light was applied. The resulting flames ıd dense black smoke rose to a considerıle height, the conflagration being in ery respect a most formidable one. It ıs allowed to burn for a full minute bere the thirty-four-gallon engine was ought to bear upon it. The operator en directed a powerful stream of Foamite ıon the burning liquid, and completely tinguished the flames in exactly twenty-'e seconds.

A final experiment with the engine ought the demonstration to a conclusion. his consisted in the equally rapid extincon of a lighted wood platform, which was ised from the ground on brick piers, and ıd been flooded with petrol. Although this instance the flames spread to the ıderside of the platform, and were conquently difficult of access, the Foamite, ımediately the jet reached them, nothered them out.

This newly-introduced means of fire tinction, which has already proved of eat value in the protection of oil fineries, should be of special interest to ose engaged in the building industry, ırticularly such as own timber yards, tensive building plant, or paint and varsh works.

Trade and Craft

Winget" Stand at the Royal Show.

Messrs. Winget, Ltd., regular supırters of the Royal Agricultural Show r many years, are again exhibiting this ar. Their stand (No. 427) includes a ımber of outstanding novelties, besides e well-known standard 32-in. block and ıb-making machine and its younger ster, the "Winget" pressure machine, ıich has been specially designed for the ection of cottages and small housing hemes.

The wide range of the 32-in. blockaking machine extends to the manufacre of agricultural field-drain pipes in ncrete. Its blocks and slabs have been ıployed for the building of concrete ttle-sheds and pig-sties with the best ıssible results, the vermin-proof and her hygienic qualities of the material, gether with its durability and its simicity of construction, rendering it speılly suitable for farm buildings of every scription.

One of the most striking features of is stand is the new "Winget" portable evator, which will not only lift concrete ocks, bricks, gravel, sand, and the like, ıt also handle and transport many other nds of material, emptying them into any agon or truck. Time and labour are us saved in many different ways. The evator is driven by a 3 h.p. benzol or trol engine, and has a maximum evating height of 16 ft. A second novelty the machine for making concrete-roofg tiles which ensure a permanent, ather-tight, and economical roof. The Winget" stone-breaker and crusher is another notable addition to the output from the same firm. This powerful machine crushes the hardest rock, stone, or brick to the finest possible aggregate for concrete work. The latest types are also shown of the "chain-spade" mixer, one type driven with the 3 h.p. engine and the other with electric drive.

Engineering Exhibits at the Crystal Palace.

Messrs. Vickers, Ltd., of Vickers House, Broadway, Westminster, S.W.1, have a very interesting show of their specialities at the Great War Exhibition now being held at the Crystal Palace (Stands Nos. 151-160). They include locomotive crankshaft axles, tyres, drop forgings and stampings, motor-car pressings, high-grade alloy steel, tubes and bars, various magnets, laminated springs, rustless steel propeller, a special hardened steel roll, engineers' small tools of every description, concrete brick and tilemaking machinery, and hand and treadle sewing machines, "Duralumin," the well-known aircraft light alloy, the Vickers' sporting rifles and shot gun barrels, standardised joinery, René Bull mechanical toys, boxmaking machines (one stitching machine, one single corner, and one double corner cutting machines in operation), hydraulic rubbers and hydraulic valves.

Companies associated with Vickers, Ltd., show the following exhibits:—

S. E. Saunders, Ltd., East Cowes, Isle of Wight.—One 30-ft. standard Consuta motor-launch.

Centrifugal Separators, Ltd., 8, Iddesleigh House, S.W.1.—One 12-in. centrifugal separator.

Ioco Rubber Proofing Co., Netherton Works, Anniesland, Glasgow.—Waterproof fabrics and rubber goods.

T. Cooke and Sons, Ltd., Buckingham Works, York.—Optical instruments, astronomical telescopes, levels, etc.

British Refrigerating Co., 37, Tothill Street, S.W.1. One No. O refrigerating plant.

Robert Boby, Ltd., Bury St. Edmunds. —Grain dressing machine, Baker winnower, seed gleaning machine, butter churn, two-high malt mill, new type haymaker, Meura mash filter.

Taylor Bros., Leeds.—Roller steel disc wheels, railway axle.

Variable Speed Gear, Ltd., Broadway Court, S.W.1.—Working models of the Williams Janney variable speed gear.

Petters, Ltd., and Vickers-Petters, Ltd., Yeovil.—Semi-Diesel crude oil engines, and Petter junior engines.

The Fawcett Construction Company.

In consequence of the continuously growing demands for their "Mon'lithcrete" form of construction, the Fawcett Construction Company have been compelled to take larger offices. Their new address is 65, Victoria Street, S.W.1, but their telephone number remains the same, Victoria 5846. The "Mon'lithcrete" system is being used, among other large works, at the following buildings:—Pascall's new factory at Mitcham, Tennant's Brewery, Sheffield; Hodgson's Tannery, Beverley; Powell's new glass factory at Wealdstone; new police stations at Marylebone and Brixton; extension of "Daily Express" printing offices; extension of Trueman, Hanbury, and Buxton's brewery; Watney, Combe, and Co.'s brewery; Kessler's piano factory at Hornsey; Joynson's paper works, St. Mary Cray;; Tottenham gas works extension; and Cairn Mills, Silvertown (ninth contract).

Society of Architects

The following announcements are issued by the Society of Architects:

National Building Code.—A Committee of the Society of Architects, which has under consideration the whole question of a form of building contract, is in negotiation with the National Federation of Building Trades Employers in regard to the proposed National Building Code, and a meeting of representatives has been arranged to deal with this question.

London Guild of Builders.—A copy of the preliminary prospectus of the London Guild of Builders has been received from the National Federation of Building Trade Operatives, and the Council of the Society has expressed its sympathy with the movement.

Housing Fees.—Representatives of the Society and of other interested bodies have been in consultation with the Ministry on the question of fees paid to architects in conjunction with State-aided housing schemes. Certain amendments have been proposed, and the matter of agreeing to the final details was left to the Accountant-General and to a representative of the Society, the R.I.B.A., the Scottish Board of Health, and the Institute of Scottish Architects.

Inter-Allied Housing Congress.—At the Inter-Allied Housing Congress held in London during June, the Society was represented by the President, Mr. Edwin J. Sadgrove, who was also a Vice-President d'Honneur of the Congress, and by Sir Charles Ruthen, Vice-President, and at the garden party given at Hampton Court Palace by H.M. Government to meet the foreign delegates to the Congress Sir Charles Ruthen represented the Society.

Beaux Arts War Memorial.—A letter was received from the Ministry of Education in France thanking the Society for its donation of 1,000 francs to the fund for the erection of a memorial to fallen students of the Ecole des Beaux Arts.

Membership Examinations.—The report of a special Sub-Committee appointed by the Council to prepare a scheme for the reorganisation of the Society's examinations for membership has been adopted, and its recommendations will be published in due course.

Assistants' Welfare Committee.—A request has been made by the Assistants' Welfare Committee for the Council of the Society to receive a deputation to discuss certain resolutions passed by that body. It is hoped to receive a deputation after the summer recess.

Royal Sanitary Institute Congress, Birmingham.—The Society will be officially represented at the Birmingham Congress during July by Mr. Alfred Long, of West Bromwich.

Victory Scholarship, Competition and Fund.—There is still a considerable sum required to provide a capital sum sufficient to produce £100 per annum for an annual prize.

Ten candidates were selected by the Jury of the Royal Academy Ateliers to sit for the Final Competition, the preliminary twelve-hour esquisse for which was held on June 5, at 28, Bedford Square, W.C. Eight of the competitors completed their preliminary sketches, and their final designs will be assessed by the Jury on July 6.

Empire Timber Exhibition. — The Society is represented on the Advisory Committee of the Empire Timber Exhibition, which is being held during July, by Sir Charles Ruthen, Vice-President.

The Week's News

(Continued from page 806)

Convalescent Home for Tottenham.

Tottenham is to spend £2,000 on a convalescent home at Hadley.

Wandsworth Building Schemes.

For Wandsworth building schemes this year £650,000 is required.

Waldorf Hotel Extension.

A large extension of the grill-room of the Waldorf Hotel, Aldwych, has been opened.

Merton's War Memorial.

Merton, Surrey, is to raise funds for a considerable extension of the Nelson Hospital as a war memorial.

£200,000 for Dewsbury Housing.

Application is to be made to the Ministry of Health for sanction to borrow £200,000 for housing.

Children's Ward as War Memorial.

A children's ward at the Bury Infirmary is to be erected as a town's war memorial. The estimated cost is £17,180.

Rubery Asylum Renovations.

Extensive renovations to Rubery Asylum, Birmingham, have become necessary, and the estimated cost is £100,000.

Stained Glass Restoration.

A fund has been started for the restoration of ancient stained glass in Coxwold Church. The glass dates from the fifteenth century.

Pontypool's Purchase.

Pontypool Urban Council has purchased the Pontypool Park Stables with a view to erecting a swimming bath, a gymnasium, and a public hall.

Wooden Flats for Bethnal Green.

It has been proposed that sectional huts should be purchased and erected as two-storey dwellings, to be let as flats or tenements, at Bethnal Green.

Harrogate Housing.

A start has been made with the laying out of the site for 100 houses for the Harrogate municipal housing scheme. The cost is estimated at about £100,000.

£1,000 Cottages in Peakland.

Chapel-en-le-Frith Rural District Council propose to build nearly 200 houses in various parts of the district at a cost of over £1,000 each.

Army Huts for Houses.

The Woolwich Borough Council has decided to purchase the Army huts at Bostall Heath, now in the hands of the Disposal Board, and to adapt them for temporary working-class dwellings.

Super-Kinema for Sunderland.

A kinema is to be built at Sunderland larger, and with greater seating accommodation, than any other picture hall in the provinces. Messrs. Steinlet and Maxwell, of Newcastle, are the architects.

Houses at Ashby.

Work on the new houses at Ashby-de-la-Zouch—the first in course of erection in Leicestershire—has just been started. The Council advertised for £50,000 to carry out the scheme, but only £450 has been subscribed. The Government has been asked to lend the whole of the money.

Building Held Up.

Messrs. H. Williams and Co., architects, London, state that they have been compelled to advise Messrs. Caley, of Norwich, not to proceed with a further big extension of their works, on account of what is alleged to be the unwillingness of bricklayers to do a fair day's work.

Old Palace for Lodgings.

The Town Council of Hamilton, near Glasgow, is asking the Duke of Hamilton to sell the dismantled palace of Hamilton, in the stables of which alone a hundred families can be accommodated.

Historic Village Cross Threatened.

A proposal to remove the old cross at Barton village, near Darlington, has met with opposition from the villagers. The cross is stated to be six centuries old and was erected by the White Canons.

Sunderland Infirmary Proposed Extension.

It is proposed to add several additional departments, including radiology, throat, nose and ear, dental, skin, and pathological departments to the Sunderland Royal Infirmary.

Height of Rooms Dispute.

Lewisham Council have refused to proceed with their housing scheme because the Ministry of Health insist on the rooms being only 8 ft. high, instead of 8 ft. 6 in., as proposed by the Council.

Catholic War Memorial.

St. Bede's Church, Masbro' (Yorks), is to be lengthened at the western end and a soldiers' memorial chapel erected and a new baptistry added. The estimated cost is between £3,000 and £4,000.

Famine in Ironwork

It is stated that so inadequate are the resources of the light foundries that builders cannot get all the ironwork they require, and if a boom in building sets in shortly there will be a hold-up for lack of castings.

Removal of a Bradford Statue.

The statue of Richard Oastler, outside the Midland Station at Bradford, which has stood on the present site for fifty years, is to be removed to Rawson Square, where the congestion of traffic is not so great.

Discoveries at an Old Rectory.

During alterations at the old Belstone Rectory, on Dartmoor, it was discovered that a building used as a stable was originally a chapel. Some of the pointed windows which had been walled up were filled with old glass.

Portland Cement Works Fire.

Engineering works and carpenters' shops and stores belonging to the Associated Portland Cement Manufacturers, at Burham, near Rochester, have been destroyed by fire. The damage is estimated at £30,000.

Housing Conditions Near Oldham.

Of 2,214 houses in the Limehurst area there are, according to Dr. Bowman, the medical officer of health, nearly 900 that require sanitary alterations to render them completely satisfactory, while eighty-nine are totally unfit for human habitation.

Houses for Plymouth.

The Ministry of Health has settled its dispute with the Town Council of Plymouth. A deputation waited on Dr. Addison, and as the result of definite promises of assistance from the Ministry the deputation agreed to propose to the Cou cil that 500 houses should be begun fort with, and a further "instalment," subje to financial arrangements, at a later dat

Memorial Tablet, Selby.

A marble tablet has been erected Brayton Parish Church, near Selby, to t memory of those connected with t church and parish who fell in the war.

Walthamstow Housing Scheme.

The first sod on the site of the housin scheme near the borders of Epping Fore has been cut, and it is hoped to comple fifty houses within twelve weeks by t employment of direct labour.

New Partnership.

We are informed that Messrs. Willir and Thicknesse, of Cunard Building Liverpool, have taken into partnersh Mr. Harold A. Dod, who had been ass ciated with the late partner in the fir since 1913.

Bournville Village Houses.

In connection with the experiments house construction being carried on Bournville, Messrs. Cadbury Bros., Ltd have issued a booklet giving descriptio and photographs of wooden, brick, ar pisé-de-terre bungalows.

Architectural Prize Drawings.

The R.I.B.A. are to allow the pri drawings sent in in competition for vario subjects for the Royal Institute's silv medal and £225, Pugin studentsh silver medal and £75 Godwin bursar Owen Jones studentship and £225, Ti prize and £67 10s. 9d., Saxon Snell pri of £135, and several others of small amounts, to be exhibited in Hull fro August 2 to August 13. They will be e hibited in twelve other centres.

Banned New Cinema.

A new building, destined to be a cinem restaurant, and dancing-hall combine was to have arisen in Oxford Street two years' time, and the preparations f its erection had already begun, but D Addison, the Minister of Health, has i tervened. The site, close to whe Dering Street joins Oxford Street, co £220,000 to purchase, and it is stated th an American cinema combine h acquired it for this great new enterprise

Dr. Addison and Nottingham.

Dr. Addison has intimated to Nottin ham City Council the reason for t Ministry of Health's refusal to accede the request for the extension of the ci boundaries. He says that the Council ha been guilty of grave neglect in the di charge of duties under the Public Heal Acts. The most unsatisfactory featur are sewage disposal arrangements, and t fact that there are 7,000 houses in the ci which are incapable of being made fit f habitation, the Council themselves bei the owners of a large number condemne

Plymouth and Direct Labour.

Plymouth and District Trades ar Labour Federation Council have writte to the Town Council supporting t Building Trades Federation in their pr test against the local housing schem being placed in the hands of contractor and expressing determination to do all their power to secure that the building houses in accordance with the plans whi had been approved by the council shou be by the direct employment of labour.

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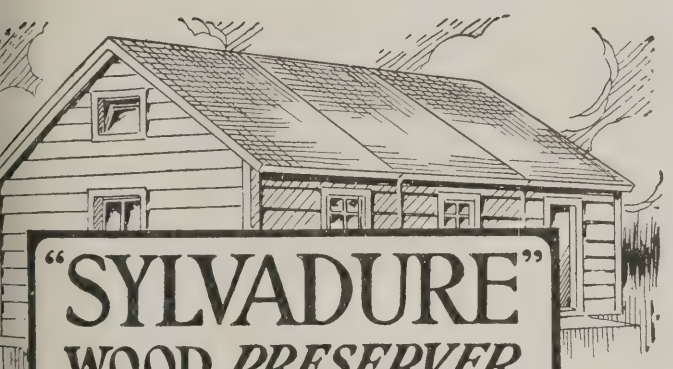

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Electrical Notes

New Electricity Plant at Manchester.

The capacity of the Stuart Street generating station of the Manchester Corporation has been increased to 92,000 k.w. by the installation of a new steam turbo-alternator. The turbine is of 35,000 h.p., and the alternator develops 25,000 k.w. A short time ago a water-tube boiler, capable of evaporating 100,000 lb. of water per hour, was installed at the same works. The three generating stations of the Corporation have now a capacity of about 120,000 k.w.

Dundee Hydro-Electric Scheme.

Reports have been submitted to the Dundee City Council with regard to the Tummel Valley hydro-electric scheme. Mr. H. Richardson, the city electrical engineer and manager, states that if the first instalment were completed, the possibility of extension up to the likely requirements of Dundee would be assured for many years to come, whereas it appears doubtful whether the Harbour Trustees will grant facilities for the next extensions of the present Carolina Port generating station. Refusal to grant sufficient facilities will mean that a new station will have to be built some distance from the city, as no other sites are available at present. Even if the present estimated cost of the first instalment of the water scheme proves approximately sufficient to cover the actual cost, then it seems clear that the ultimate advantages to be gained warrant proceeding with the water-power extension. One million and a quarter in cash is involved in the first instalment of this water-power scheme, and as the present capital account is £340,180, the huge extension contemplated will bring up the capital account to £1,577,180.

Dartmoor and Electricity.

Great interest is being taken in the proposals embodied in the Dartmoor and District Hydro-Electric Supply Bill, for the industrialisation of Dartmoor, and considerable opposition is being made on the ground that enormous damage will accrue to private interests. The Duchy of Cornwall regards Dartmoor as a national inheritance and, if public opinion is shown to be strongly against the scheme, will do everything in its power to protect the inheritance for the public. The Duchy view is that before its consent can be given to a Bill likely to prove so damaging to private interests it must take council with the Devon County Council and other local authorities. The Duchy is not disposed to enter into any negotiations with the promoters until it is satisfied that the scheme has the whole-hearted support of the county. It is stated that the proposed reservoirs would submerge great areas of peat, china clay, and tin. One of the proposed reservoirs alone, it is estimated, would cover up 10,000,000 tons of peat, another would destroy the finest grazing land in the open forest, and would cause irreparable injury to venville tenants and smallholders. As a site for another reservoir the promoters have chosen the area which had been selected by the Duchy for the afforestation scheme, upon which work was begun last year. Misgivings are also entertained by the Duchy authorities in regard to the suggested establishment by the Wilson Corporation of an electrolytic refinery for dealing with blister copper.

Electric Transmission in the Navy.

Sir E. H. Tennyson D'Eyncourt, K.C.B., M.I.N.A., in his presidential address to the Junior Institution of Engineers, said that electric transmission had been adopted by the United States Navy with considerable success, and on a smaller scale in our own Navy. It was being considered with much interest, as the advantages for low-pressure working might (if substantiated) prove of considerable value and well worthy of trial by ourselves, especially when it was borne in mind that warships steamed for perhaps 80 per cent. of their time at sea at a small fraction, say one-tenth, of their full power, so that nine-tenths of their power might be regarded as reserve to be used only in emergency. Economy at such powers became of very high importance. In the largest class of submarines, the K boats, to obtain a surface speed of twenty-four knots they had to provide steam turbines. He stated that the boats were a great success. It was interesting, in this connection, to point out that besides the steam turbines for full speed on the surface, the K submarines had the electric drive under water, and also a Diesel engine for use just before diving or just after coming to the surface. The transmission from the Diesel engine was through the electric motors, so that these vessels had not only geared turbines for the steam drive, but they also had electrical transmission with a Diesel engine and an electric battery drive when under water, and were therefore quite unique vessels in every way; they were five or six knots faster on the surface than any vessels the Germans produced.

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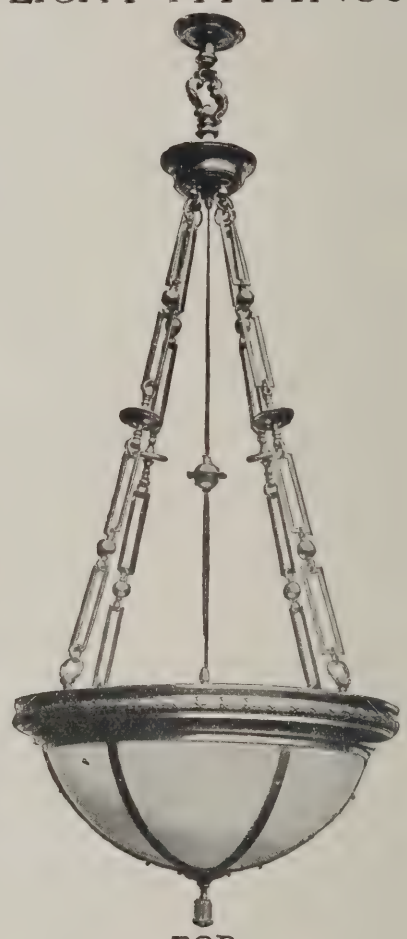

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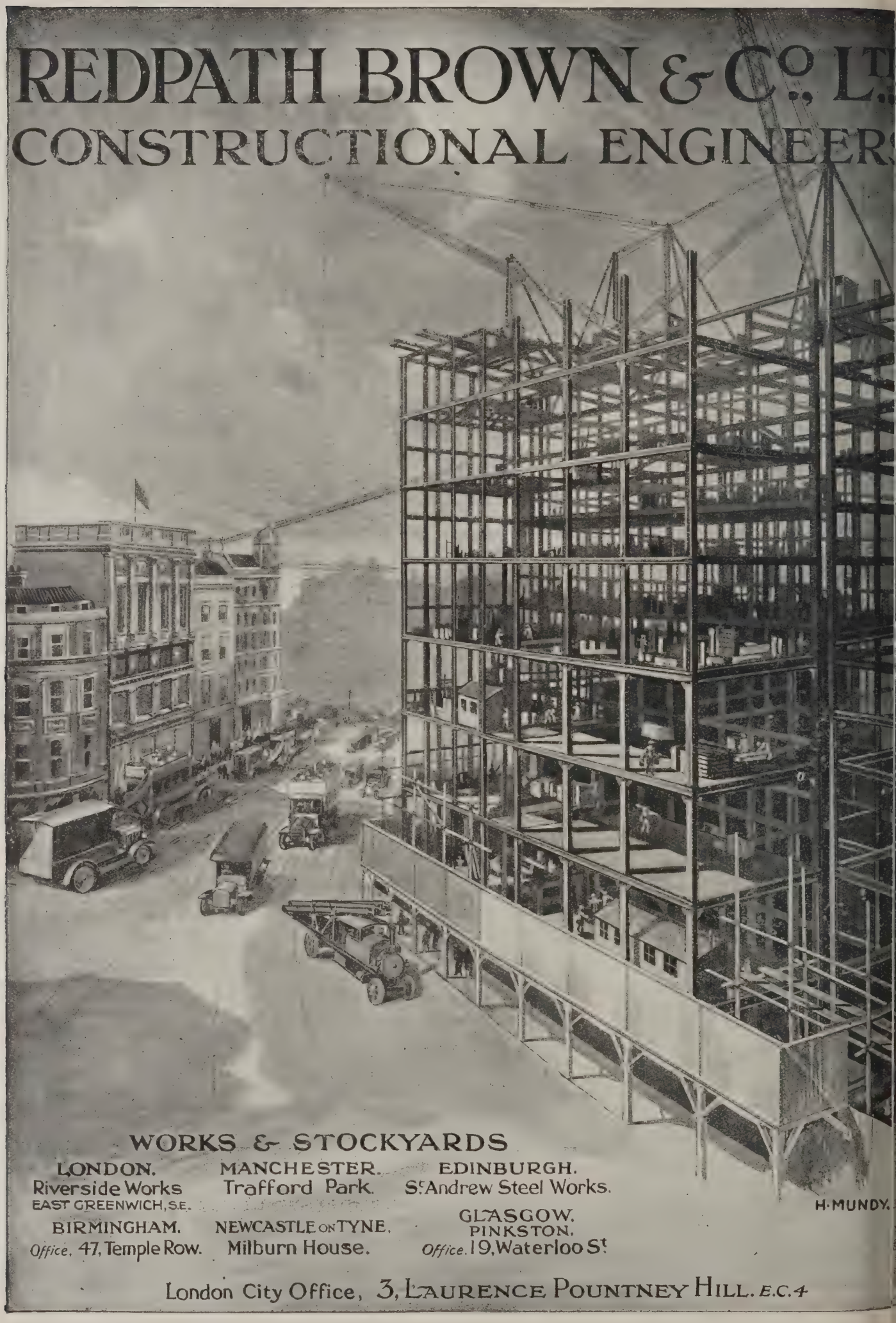
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Competition News

Winsford.

War Memorial to cost about £300. Apply Mr. J. H. Cooke, hon. secretary to the Design and Sites Committee, Winsford, Cheshire. Closing date Jan. 30.

Cheltenham.

Cenotaph to be erected on the Bandstand site on the Promenade. Apply Mr. R. O. Seacombe, hon. secretary to the War Memorial Committee, Municipal Offices, Cheltenham. Closing date Jan. 28.

Birmingham.

Birmingham Civic Society have organised a competition amongst architects and others for the production of a scheme for the town-planning of the Northfield area, included in the South-West Birmingham town-planning scheme. The Civic Society offers a prize of £25 for the best treatment of the area proposed to be planned. The Society desire the preservation and proper treatment of a typical old village on the outskirts of the city, and the premiated design will be submitted to the Town Planning Committee for inclusion in the district scheme as a model for similar opportunities elsewhere. Full details may be obtained from the secretary of the Birmingham Civic Society.

Houghton-le-Spring, Durham.

Designs are invited by the Durham County Council for a mixed school for 350 pupils to be erected at Houghton-le-Spring. Premiums of 200, 100, and 50 guineas are offered for the designs placed first, second, and third respectively by the assessor. The author of the winning design will be appointed architect for the work, but should it not be proceeded with within twelve months of the award he will be entitled to receive a sum equalling 1½ per cent. of estimated cost, but not exceeding 500 guineas in settlement. This sum is to be considered part of his commission should the work proceed. The schedule of accommodation to be provided for the school includes, in addition to the ordinary class rooms, cloak rooms, lavatories, etc.: (1) Assembly hall, which can also be used for physical training, (2) three laboratories for thirty pupils each (two chemical and one physical), (3) preparation room, also space for laboratory storage, (4) lecture room, (5) art room, (6) housecraft room, (7) handicraft room, (8) library, also to be used for occasional meetings of governors (about twenty), (9) four staff rooms, one each for head teacher, senior assistant mistress, women assistants, men assistants, also lavatory and closet accommodation for teachers, (10) dining room for about 200 pupils, with good-sized kitchen, pantry, and larder attached, preferably detached from but in close proximity to main buildings, (11) storage for bicycles. The school is to be lighted by electricity if available, but gas will be required for laboratories and cooking. Economy in cost in materials and construction is to be a prime factor, and competitors are at liberty to adopt the use of novel materials or any light method of construction. Such materials and construction are to be clearly illustrated upon the sheet of half-inch details. A full report is to accompany the drawings, including a statement of materials and construction, with the effective life of the structure, and the estimated period required for erection. The report must also include a short general specification, particulars of sanitary appliances, heating, ventilation, and a statement of the cubic contents, with estimated cost of building at present prices. Drawings required: Plan of each floor, roof plan, two elevations of main buildings, caretaker's house, and any outbuilding; two sections of main buildings, and one section of caretaker's house and any outbuilding; block plan of whole site, sheet of constructive details. The designs must conform to the latest building regulations for secondary schools issued by the Board of Education (obtainable from Wyman and Sons, 29, Bream's Buildings, Fetter Lane, E.C., price 3½d. post free). Questions relative to the competition to be addressed to the Director of Education, Shire Hall, Durham (from whom copies of conditions may be obtained), not later than February 14th, 1920. The closing date of the competition is March 31st.

Chatham.

Designs are invited by the Chatham Town Council for the lay-out of a fifty-acre site for working-class dwellings. A premium of £100 will be awarded to the author of the selected plans, whose final acceptance is subject to the approval of the Ministry of Health or the Housing Commissioner for the district. It is desired that the lay-out shall be considered in regard to the future needs of the community with respect to social, religious, and educational development, and for recreation. In preparing the plans competitors should be guided as far as practicable by the general suggestions and instructions issued by the Ministry of Health as to general lay-out plans, and in particular should observe the instructions under heading "A" on the back of the Ministry's Form D 49. Two sheets of plans are required, the first to a scale of 1-2,500 and the second (the detailed development plan) to a scale of 1-500. It is intended ultimately to carry out a 300-house scheme comprising the following types:

(a) With living room, scullery, and two bedrooms	30
(b) With living-room, scullery, and three bedrooms	75
(c) With parlour, living-room, scullery, and three bedrooms ...	150
(d) With parlour, living-room, scullery, and four bedrooms ...	45
	300

Although the area to be developed is in excess of the requirements for the erection of 300 houses on the basis of twelve to the acre, it is desired that the site shall ultimately, as a whole, be laid out according to a well-designed plan. It is proposed to proceed with a first instalment of 100 houses as follows: Ten of class (a), twenty-five of class (b), fifty of class (c), and fifteen of class (d). The closing date for the competition is February 9th. Printed conditions of the competition may be obtained from the Town Clerk, Town Hall, Chatham. (We learn that the above conditions have now been amended.)

Bridgwater Housing Competition.
Eastbourne War Memorial Competition.
Ilfracombe Concert Hall Competition.

Members and Licentiates of the Royal Institute of British Architects must not take part in the above competitions because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions.—By order of the Council, Ian MacAlister, secretary R.I.B.A.

France and British Housing Schemes

The greatest interest is being taken France in the British housing metho especially as regards the erection of gard cities. A meeting of leading housi reformers in France has been held in Pa under the presidency of M. Jules Siegfri the doyen of the Chamber, to hear fr Mr. Aldridge, secretary of the Natio Housing and Town Planning Council, account of the housing program adopted by the British Government.

The meeting was part of the campaign bring together British and French housi reformers, and already substantial progr has been made to establish a strong bo of working co-operation between the le ing housing experts of both countri Admiration was expressed by French perts for the legislative programme of British Government and for the practic manner in which it is being carried out. was recognised that although legislation to be submitted to the French Parliam during the coming session it would nec sarily differ from that adopted in Gr Britain. The fact that land has be acquired for upwards of half a milli houses, and that some thousands ha already been erected, must exercise powerful influence on housing reforms France. It was decided that a spec endeavour should be made to familiar Deputies and Senators with Brit methods. Although numerous plans ha already been drawn up for housing refo in France, it has not been found possi to put them into execution owing to fina cial difficulties. France will be represen at the Inter-Allied Housing and To Planning Congress, to be held in Lond from June 3 to June 11.—Reuter Tra Service.

Coming Events

WEDNESDAY, FEBRUARY 4.

Industrial League and Council, Conf ence Hall, Central Hall, Westminster. "Conditions the Workers may Control," Major A. E. Pells. 7.30 p.m.

FRIDAY, FEBRUARY 6.

The Concrete Institute, 296, Vauxh Bridge Road, S.W.1. Free public demo strations on the practical testing cement, by Mr. H. K. G. Bamber, F.C. etc. 6 p.m.

THURSDAY, FEBRUARY 12.

Bartlett School of Architecture, Univ sity College, Gower Street, London. "English Architecture in the Nineteen Century," by Professor Simpson. 5 p.m. Admission by ticket.

WEDNESDAY, FEBRUARY 18.

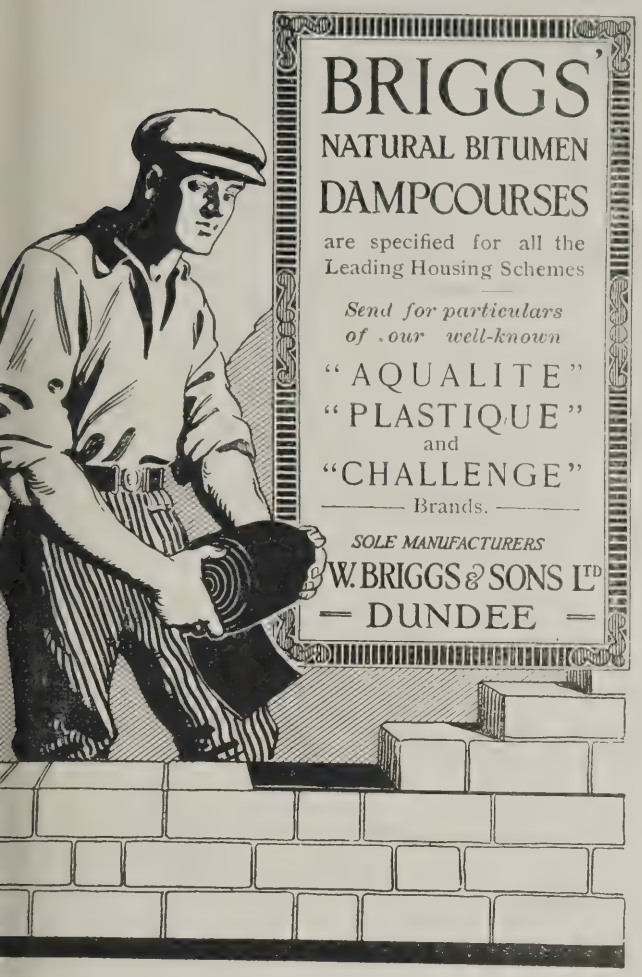
Industrial League and Council, Conf ence Hall, Central Hall, Westminster. "Evolution in Modern Methods in Ind try," by Mr. W. W. J. Grosart. 7.30 p.

FRIDAY, FEBRUARY 20.

The Concrete Institute, 296, Vauxh Bridge Road, S.W.1. Free public lectu "Some Points in Reinforced Concre Design," by Mr. H. Kempton Dys 6 p.m.

THURSDAY, FEBRUARY 26.

Bartlett School of Architecture, Univ sity College, Gower Street, London. "The Trend of Architectural Thought England To-Day," by Professor Simps 5.30 p.m. Admission by ticket.



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Electrical Notes

Electricity in the Home.

Electric fires and cooking ranges are now being manufactured in immense quantities in this country. During the war nearly 20,000 pieces of electric cooking and heating apparatus were made for naval and military use, and the addition to electric cooking equipment for service and munition work provided for the daily catering requirements of some 400,000 persons. The Electrical Development Association in a booklet state that the firms engaged on this work have turned their experience to the production of electrical apparatus for the home, and it is of the utmost importance that provision should be made in new houses of every class for the service of electricity in order that improvements in apparatus for heating and cooking, more efficient methods of lighting, and other rapidly-developing applications of electricity to domestic use may be introduced with ease, and advantage taken of the wider distribution and more economical production of electricity which is foreshadowed at the present time. It would appear that colonies fitted in this up-to-date manner must cost the community less in regard to cartage of coal and ashes, the maintenance of roads, and the work of scavenging.

Electricity in the War and After.

The story of electricity in the war remains untold, or, at best, hidden in the proceedings of engineering societies; achievements which would constitute priceless advertisement for any industry are unrecorded, and are rapidly being forgotten in the press of business which has come to those who control the production of electricity and the ever-growing variety of appliances which put this power at the service of man in his daily life and work. The electric supply works of this country were affected by the war in very different ways, in the large industrial centres a sudden demand for power in munition works led to rapid development, in some cases the electrical machinery was extended and increased to several times the capacity of the original works, and this under the usual difficulties of that time in regard to labour and material.

Other undertakings in rural or residential districts suddenly found themselves called upon to feed factories which sprang up in a few months amongst green fields, or arose by the conversion of buildings never intended for such purposes; rapid changes and adaptations were made possible by the use of electric power. It is not surprising that on the one hand the vast army of employers and of workers brought by stress of circumstances into intimate contact with electrical methods have carried into their post-war life a keen appreciation of the labour-saving and productive facilities afforded by the use of electricity for all purposes, nor is it difficult to understand that some of the electric supply works after running under the most arduous conditions for so long—with but scant attention and repair—have shown a resentment, excusable even in machinery, against the short respite provided by the early months of peace being followed so soon by a further régime of heavy work and continuous extensions.

During the war the electrical engineer was able to secure Government assistance in obtaining machinery and materials; his work being early recognised as the very key to munition output, but to-day he must meet his growing needs in competition with every other user of labour and material, and with the great oversea demand for British engineering products. In certain districts, according to the Electrical Development Association, the indulgent consideration of the public must be enlisted for the next few months, until the return of longer days shall ease the load upon the electricity works in the evening, and the lapse of time enable manufacturers to overtake the long lists of orders in hand for electrical machinery and cables. These circumstances need in no way alarm the many prospective users of electricity who are waiting for connection, or contemplating the use of electrical methods; the company and municipal undertakings, who may be in temporary difficulties, only ask for a little public assistance to prevent the maximum demand for electricity supply from exceeding the possibilities of their staffs and plant until the work of repair and extension in hand shall be more advanced.

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Competition News

Accrington.

The Accrington War Memorial Committee invite designs in competition for the local war memorial to be erected in Oak Hill Park, Accrington. The following premiums will be paid: First, £100; second, £50. Further particulars may be obtained on application to Mr. A. H. Aitken, hon. secretary, Town Hall, Accrington, on payment of one guinea, which will be returned on receipt of design or on return of the particulars within three days. The designs must be delivered to the above before March 14 next.

Sheffield.

The Special Committee report that they have approved the conditions of contract for competitive designs for the proposed memorial hall. Sir Aston Webb, P.R.A., F.R.I.B.A., and Mr. F. E. P. Edwards, F.R.I.B.A. (City Architect), are the joint assessors. The first four designs will be placed in order of merit, and in the event of the Council deciding to proceed the author of the design placed first shall be employed by the Council to carry out the work, and he shall, if requested, revise his design to meet the requirements of the Council. The selected architect is to be paid in accordance with the schedule of charges sanctioned by the R.I.B.A., and the authors of the designs placed second, third, and fourth shall be paid premiums of £250, £150, and £100 respectively, and their designs will be returned to them. The amount of expenditure so far as can be foreseen at present, has been fixed at £200,000, to include professional fees, external and internal finishings complete, electric lighting, heating, ventilation, lifts, sanitary and fire appliances, but not organ or furnishing. The architecture is left to the discretion of the competitor, but it is suggested that it should be dignified and simple without over elaboration of detail. The building is to accommodate 4,000 people in two halls, as specified in the conditions, the larger building to accommodate 3,000 persons and the platform an additional 500 persons. The small hall is to accommodate 500 persons.

Victoria Hall, Exeter.

The directors of the Victoria Hall (Exeter), Ltd., invite designs for rebuilding the Victoria Hall Buildings, recently destroyed by fire. Sir A. Brumwell Thomas has been appointed assessor. The author of the selected design will be appointed architect to carry out the work, and premiums of 100 gs. and 50 gs. will be given for the designs placed second and third respectively. It is intended to proceed immediately with the rebuilding, but if, in the assessor's opinion, there is some imperative reason against the employment of the successful architect, or should there be any delay in starting at once with the work, he will be entitled to a sum of 150 gs. in full settlement, this sum to be counted as part payment of his commission should he be subsequently instructed to carry out his design. £12,000 is the approximate sum intended to be spent on the re-building, and this amount becomes an important condition in the competition. It is intended to use the hall for concerts, dancing, and all kinds of public functions, and in addition it is to be designed for use as a cinema hall. A refreshment room with pantry attached is required, and two dressing-rooms with lavatory accommodation in connection with the orchestra. The original Victoria Hall had an open roof with large dormer windows. It was good acoustically, but had the defect that concerts and speeches were seriously disturbed by the noise of the railway engines immediately alongside the hall, and competitors are at liberty to suggest in their designs and reports what means they would propose to adopt in order to modify this defect. The lecture-hall which forms part of the buildings is to be used for smaller functions, concerts, lectures, and dancing. It shall, if possible, also be adaptable as a cinema. The extent of its reconstruction is left to competitors. The floor of the lecture-room is of timber construction, and as the whole of the ground floor and basement of this block and the wood staircases to the lecture-room are to be subject to alteration, it is unlikely that more than the four walls and the roof will remain in the reconstruction, but the value of the timber from the floor may be taken into account and the maple flooring may be counted on for re-use in the new building. The front elevation (in Queen Street) will remain unaltered except for the reconstruction of the glass roof (extending over pavement the full length of front) on cantilever supports. On the ground floor there must be a large crush hall to the Victoria Hall, a small crush hall to the lecture hall (each with separate entrance and ticket office) and a secretary's office. Separate cloak rooms and lavatory accommodation for both sexes is required for each hall. Competitors are asked to consider the question of providing caretaker's quarters in the space under the main hall, but to keep the estimate separate from the main estimate. Drawings required: Plan of each floor and a longitudinal and cross section of each of the two main blocks of buildings to ⅛-in. scale. A cross section and part longitudinal section to ½-in. scale of the Victoria Hall and crush hall. No external elevations or perspective are required, as the competition is mainly for internal reconstruction and design. A detailed estimate of cost to accompany report. Drawings must reach the Secretary, Victoria Hall Competition, Parliament Mansions, Victoria Street, S.W.1, on or before March 14, 1920, from whom copies of conditions and plans may be obtained.

Halifax Y.M.C.A.

Mr. C. E. Elcock, A.R.I.B.A., of York and Manchester, the assessor for the Halifax Y.M.C.A. architects' competition, has presented his report, and the following are the architects of the premiated designs: (1) Messrs. Glendinning and Hanson, (2) Mr. C. H. Hebblethwaite, (3) Messrs. Scott and Bagnall. The Y.M.C.A., in inviting competitive designs for additions and alterations to Clare Hall, stipulated that the centre building, or the main block, on Clare Road must be retained and altered as required, but the wing towards Skircoat Road was to be pulled down. The requirements were as follows: Ground floor—A small assembly hall to seat about five hundred, with entrance from Prescott Street, and from Y.M.C.A.; A memorial hall to take the form of a central "community room," with the entrance vestibule preferably at the angle of Skircoat-road and Prescott Street; members' lounge and café, ladies' parlour, ladies' toilet accommodation, secretary's and clerks' offices, staircase hall, secondary stairs, servery, stores, fuel and heating chambers, and a covered space for thirty cycles, ten motor cycles, and room for the storing of two motor cars. First and second floors—Ten committee, craft, and class rooms, two conference rooms, library with study and writing alcoves, dark room with fittings for photographic work. Space was also to be left for tennis courts, etc.

Skipton.

Members and Licentiates of the R.I.B.A. must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.—By order of the Council, Ian MacAlister, Secretary R.I.B.A.

Coming Events

THURSDAY, FEBRUARY 26.

Bartlett School of Architecture, University College, Gower Street, London.—"The Trend of Architectural Thought in England To-Day," by Professor Simpson. 5.30 p.m. Admission by ticket.

MONDAY, MARCH 1.

R.I.B.A., 9, Conduit Street, London, W.1.—Business Meeting: Election of Royal Gold Medallist. 8 p.m.

Industrial Council for the Building Industry.—Meeting in the Crown Hotel, Harrogate, on March 1 and 2, at 10.30 a.m. Agenda: (1) Notice convening the meeting. (2) Minutes of last meeting and matters arising. (3) Treasurer's report. (4) Receive reports, if any, of Council Committees, and, if thought proper, resolve thereon—(a) Resettlement Committee; (b) Educational Committee; (c) Management and Costs Committee; (d) Welfare Committee; (e) Administrative Committee. (5) Receive and, if thought proper, resolve upon communications, if any, from—(a) Ministry of Labour; (b) Education Department; (c) Home Office; (d) Ministry of Health; (e) any other Government Departments; (f) any other correspondence. (6) Consider following resolution sent forward by the National Federation of Master Painters and Decorators: "That a Committee be appointed to examine the scheme for a National Wage Board submitted by representatives of the painting trade, and to report thereon to the next meeting." (7) Consider communication from the National Institute of Psychology and Physiology Applied to Commerce and Industry. A representative of the Institute is expected to be present to explain the scope and purpose of the communication. (8) Consider whether this Council can make a useful contribution in connection with the enquiry about to be made into costs of building materials. (9) Appoint a representative upon the Administrative Committee vice Mr. H. Piper resigned. (10) Any other business that may be presented by the chairman.

WEDNESDAY, MARCH 3.

Industrial League and Council, Conference Hall, Central Hall, Westminster.—"Economical Production and Prevention of Waste," by Mr. H. Atkinson. 7.30 p.m.

THURSDAY, MARCH 4.

Edinburgh Architectural Association, 117, George Street, Edinburgh.—"The Architect and His Structures," by Mr. George Fraser, A.M.I.C.E.

FRIDAY, MARCH 5.

The Concrete Institute, 296, Vauxhall Bridge Road, S.W.1. Free public lecture on "Some Properties of Steel," by Mr. Ewart S. Andrews, B.Sc. (Eng.). 6 p.m.

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Electrical Notes

Electricity and its Relation to Maintenance Cost.

The increasing cost of decoration affords an opportunity for recommending a higher grade of work. To meet the case by reducing quality or permanence is a false economy as so large a percentage of total cost is made up of labour and preparatory expense. When it is possible to increase the useful life of decorative work a strong case can be made out for more elaborate but less frequent renovations. Attention to ventilation, exclusion of dusty air, and proper care for the removal of smoke from fires and the heated air streams from radiators will do much to retard the deterioration of decorative work.

The use of electricity for lighting is recognised as the chief means of preserving the cleanliness of ceilings and walls, and the case for this illuminant on such grounds alone has been greatly strengthened by the increase in cost of builders' work. The first cost of electric lighting with plain fittings may now often be found to be less than one bill for ceiling and wall decoration, and even where open fires are retained it has been found that a period of seven years will reduce the freshness of decorations by a very small amount when electric light is used.

This striking advantage has in the past occasionally been deemed by some builders and decorators to be likely to prejudice their interests, but experience even in the early days of electric lighting showed that the greater permanence secured for decorative work induced owners to pay for better and more elaborate schemes than they would contemplate under conditions leading to rapid deterioration and the need for frequent renovation.

In places of public resort where much light must be employed, it is safe to say that styles of decoration now generally in use would never have been reached but for the advent of a pure and heatless illuminant.

Cost of Installation.

The cost of wiring buildings for electric lighting has increased in common with every other item, but wiring methods are becoming simplified and increased cost of material and labour is being offset by new types and methods of production which put more work into the factory and leave less to be carried out on site. The cost of wiring ordinary house property varies widely with the method employed and the amount of the work which can be put out as one job. Including plain fittings and lamps it is now possible to secure tenders ranging from £3 per light for small work and few points, down to £2 in considerable installations, and these prices apply to the best standard tube or conduit systems which have been in use for a long time; but excellent work, meeting all requirements of the supply and insurance companies, is being carried out under new systems at prices down to one-half of these figures and resulting in an electrical installation as permanent as any other part of the equipment.

In most large cities there are to-day lighting installations in use on wiring systems put in from twenty to thirty-five years ago, and it is doubtful if any regulations and rules covering construction work possess so large a factor of safety as those under which electric wiring is carried out.

The development of wiring and cable work is of particular interest to the architect and builder, and material and methods of use are now available which reduce cost of cutting away and making good, and permit much greater ease in fixing and in altering or extending electric wiring as required.

The choice of method must be dictated by circumstances and the relative importance of first cost; between the principal alternatives technically there is little to choose. In all cases the factor of safety is high and the requirements of the I.E.E. and the fire insurance companies are met.

The older and well-tried systems of protecting and covering electric wires in wood-grooved casing or metal tubes need no description to the architect. The by no means new but more recently developed methods were produced chiefly with the idea of making the cable self-protecting—that is to say, eliminating the separate sheath or casing and so producing an insulated and protected conductor which could be fixed in the surface of walls and ceilings.

ARCHITECTS WHO CARE.

The installation of ELECTRIC LIGHT in a new building is second only in importance to the fenestration; in some cases it is even more important. There is one certain way of securing the best possible material & method. Specify

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Y R. GOULBOURN LOVELL, A.R.I.B.A.

"HOME INTERIORS" is an absolutely nique work for all interested in any way the application of colour to internal de-oration.

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It provides, for the first time, the eans of drawing up similar schemes, *ith absolute accuracy*. For this purpose, includes a series of patented mechanical lour charts, designed for the selection colour schemes and harmonising lours. By the use of these charts the act complementary of any given colour at once disclosed, and at the same time t only those other colours that can be ed to produce any desired scheme, but so the proportion of each that must be ed to give the best possible effect. hese charts teach, moreover, in a par-ularly valuable manner, the whole eory and practice of colour.

Large Water-Colour Drawings.

But, apart even from this unique inven-n, the many large facsimile water-lour drawings of specimen rooms would extremely valuable as showing prac-al and economical schemes of decora-n that will appeal as being decidedly vel and at the same time in the best taste. Moreover, these plates are the st large-size plates which show how indows can be treated effectively and ithout obscuring the light.

Full Working Details.

Each plate, moreover, is accompanied full half-size details, as well as com-ete explanatory notes, explaining its inciples and objects, and pointing out alternative scheme where, for any ason, it cannot be adopted in its en-ety.

Two Opinions.

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"MODERN BUILDINGS: Their Planning, Construction, and Equipment," aims to put before its readers all the essential parts of a modern building, to describe modern methods of planning, and of constructing consecutively, and as they occur in the actual work.

It explains all possible sorts of buildings, whether of the simplest or of the most complicated character, and supplies elucidative illustrations by the leading architects of the day. And it gives the principles that underlie building practice as it is undertaken in Great Britain and in the Colonies.

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The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

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J. A. SPENDER (Editor of "The Westminster Gazette"), on "Oratory in the House of Commons";
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REDPATH BROWN & Co., Ltd.
CONSTRUCTIONAL ENGINEERS

Current Prices of Materials

)NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of ;ue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
:CAVATOR AND CONCRETOR	
cavator, 1s. 8d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. per yd. cube.
›ourer, 1s. 8d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
vvy, 1s. 8d. per hour.	In stiff clay, add 50 per cent.
nberman, 1s. 9d. per ›our.	In underpinning, add 120 per cent.
ıffolder, 1s 9d. per hour.	In rock, including blasting, add 225 per cent.
ıtchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
›ken brick or stone, in., 7s. per yd.	Headings, including timbering, add 400 per cent.
ames ballast 19s. per yd	Return, fill, and ram, ordinary earth, 2s. 9d. per yd.
Gravel, 20s. per yd.	Spread and level, including wheeling, 2s. 10d. per yd.
sand, 22s. per yd.	Planking, 5½d. per ft. sup.
ıshed sand, 23s. 6d. per d.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
eened ballast or gravel, dd 10 per cent. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 3d. per yd. sup.
ıker, breeze, etc., prices ccording to locality.	Do. 6 in. thick, 4s. per yd. sup.
'tland cement, 79s. per on.	Puddling, 30s. per yd. cube.
. in small lots, ex ›ondon stock, 100s. per on.	Cement concrete, 4.2.1, 53s. 6d. per yd. cube.
s lime, 70s. per ton.	Do. 6.2.1, 50s. 6d. per yd. cube.
:ks charged extra at s. 6d. each and credited 'hen returned at 2s.	Do. in upper floors, add 12½ per cent.
ınsport hire per day:	Do. in ferro concrete work, add 20 per cent.
'art and horse, 26s.	Do. in underpinning, add 50 per cent.
-ton motor lorry, £6 10s.	Lias lime concrete, 45s. per yd. cube.
team lorry, 5-ton, £7.	Breeze concrete, 29s. per yd. cube.
railer, 30s.	Do. in lintols, etc., 5s. per ft. cube.
team roller, £4 10s.	
Vater cart, 30s.	
AINER.	
›ourer, 1s. 8d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 2s. 10d., 6-in. 4s. 2d., 9-in. 5s. 6d. per ft.
ıberman, 1s. 9d. per our.	Cast-iron drains, jointed in lead, 4-in. 8s. 6d., 6-in. 15s., 9-in. 26s. per ft.
cklayer, 1s. 11½d. per our.	Note.—These prices include digging and filling for normal depths, and are average prices.
mber, 2s. per hour.	
tchman, 6s. 6d. per shift.	
neware pipes, tested uality, 4-in. 3s., 6-in. ›. 9d., 9-in. 7s. 11d. per d.	
t iron pipes, coated, ft. lengths, 4-in. 4s., in. 5s. 9d., 9-in. 8s. 6d. er yd.	
tland cement and sand, ›e Excavator above.	
d for caulking, 60s. er cwt.	
ıket, 1s. 9d. per lb.	
ICKLAYER.	
cklayers, 1s. 11½d. per our.	Brickwork in stone lime mortar, Flettons or equal, £44 10s. per rod.
›ourer, 1s. 8d. per hour.	Do. in cement do. £47 15s. per rod.
ffolder, 1s. 9d. per hour.	Do. in stocks, add 20 per cent. per rod.
›don stocks, 84s. 6d. per [.	Do. in blues, add 320 per cent. per rod.
ttons, 75s. per M.	Do. circular on plan, add 12½ per cent. per rod.
ffordshire blue, 220s. er M.	Facings, fair, 3d. per ft. sup. extra.
ebricks, 2½ in., 223s. per [.	Do. picked Flettons, 4½d. per ft. sup. extra.
zed, salt, white, and ›ory stretchers, £25 er M.	Do. picked stocks, 6d. per ft. sup. extra.
headers, £24 10s. er M.	Do. salt, white, or ivory glazed, in areas, 5s. 8d. per ft. sup. extra.
›ours, extra, 130s. per M.	Struck pointing, 4d. per ft. sup. extra.
onds, less, £1 per M.	Tuck pointing, 10½d. per ft. sup. extra.
nent and sand, see Ex- ıvator above.	Weather pointing, 4d. per ft. sup. extra.
ıe, grey stone, 62s. per ›n.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
ed lime mortar 26s. er yd.	Do. 1½-in., 5s. 10d. per yd. sup.
np course, in rolls of ½ in. 4s., 9 in. 7s. 3d., ¼ in. 10s. 9d., 18 in. 4s. per roll.	Do. 2-in., 7s. 6d. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte, damp course, ½-in., 1s. 4d. per ft. sup.
	Do. vertical, 1s. 8d. per ft. sup.
	Slate damp course, 1s. 10d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 11s. 6d. per yd.
	Do. skirting, 6-in., 1s. 6d. per yd.
SON (INCLUDING SLATE).	
son, 1s. 11½d. per hour.	Hoisting and setting stone, 1s. 6d. per ft. cube
fixer, 2s. 0½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
›ourer, 1s. 8d. per hour.	Plain face Portland, basis, 2s. 3d. per ft. sup.
ffolder, 1s. 9d. per hour.	Do. circular, 3s. per ft. sup.
tland stone:	Sunk face, 3s. 1d. per ft. sup.
'hitbed, 4s. 5d. per ft. cube.	Do. circular, 3s. 8d. per ft. sup.
asebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. per ft. sup.
h stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. per ft. sup.
ısfield red, 7s. 6d.	Do. do. circular, 2s. 8d. per ft. sup.
ual trade extras for rge blocks.)	Circular-circular work, 10s. 3d. per ft. sup.
k paving, av. 2½ in. s. 6d. per ft. sup.	Plain moulding, straight, per inch of girth, 7½d. per ft. run.
	Do. circular, 10½d. per ft. run
	Half sawing, 9d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.
	Do. Mansfield, 12½ per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.	Deduct for Bath, 33⅓ per cent.
Cement and sand, see "Excavator," etc., above.	Do. for Chilmark, 5 per cent.
	Setting 1-in. slate shelving in cement, 7d. per ft. sup.
	Rubbed rounded nosing to do. 6d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 82s., Countess 89s., Duchess 98s. per square.
Tiler, 1s. 11½d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
Scaffolder, 1s. 9d. per hour.	Delabole do. 110s. per square.
Labourer, 1s. 8d. per hour.	Add, if vertical, 6s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 94s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 87s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 133s. per M.	
Machine tiles, 124s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 1s. 11½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. per ft. cube.
Joiner, 1s. 11½d. per hour.	Do. framed in floors, roofs, etc., 13s. 9d. per ft. cube.
Labourer, 1s. 8d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 15s. per sq.
Archangel:	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 93s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 29s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 108s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do., 4s. 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in. 3s 3d. per ft. sup.
Flooring, P.E., U/S. 57s. 3d. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 58s. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 11s., 1-in. 13s. 6d., 1¼-in. 16s. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. per hour.	Milled lead and labour in gutters, flashings, etc., 83s.
Mate or labourer, 1s. 8d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 5d. per ft.
Lead, milled sheet, 60s. 6d. per cwt.	Do. ¾-in., 3s. 1d. per ft.
Do. Drawn pipes, 61s. per cwt.	Do. 1-in., 3s. 7d. per ft.
Do. soil pipe, 66s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. scrap, 30s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 3-in., 11s. 9d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 4-in., 16s. 3d. per ft.
Do. fine, 2s. 6d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 4d. per ft.
Red and white lead, 10d. per lb.	Do. 3-in., 2s. 8d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 5d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
R.W., 2-in. 4s., 3-in. 5s. 3d., 4-in. 6s. 6d. per yd.	Do. O.G., 4-in., 2s. 3d. per ft.
Gutter, 4-in. H.R. 4s., 4-in. O.G. 4s. 3d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 45s. each.
	Baths only, with all joints, 37s. 6d. each.
	Lavatory basins only, with all joints on brackets, 30s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 1s. 11½d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 8d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. per cwt.	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
Sirapite, 67s. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Plaster, 83s. per ton	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 10½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 8d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 10½d. per hour.	Knot, stop, and prime, 6d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 3d. per yd. sup.
Genuine white lead, 110s. per cwt.	Do. subsequent coats, 1s. 1d. per yd. sup.
Linseed oil, raw, 12s. per gall.	Do. enamel coat, 2s. 3d. per yd. sup.
Do. boiled, 12s. 6d. per gall.	Brush grain and 2 coats varnish, 4s. 3d. per yd. sup.
Turpentine, 18s. 6d. per gal.	Figured do. do. 7s. 9d. per yd. sup.
Liquid driers, 20s. per gall.	French polishing, 1s. 9d. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 3d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Do. fine, 3s. and upwards per piece.
Double size, 7s. per firkin.	Varnishing paper, 1 coat, 14s. per piece.
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Hard stopping 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 3d. per yd. sup.
Varnish, hard oak, 18s. 6d. per gall.	Do. each subsequent coat, 1s. 1d. per yd. sup.
Do. Outside do., 19s. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 21s. 6d. per gall.	
Do. Flat, 21s. 6d. per gall.	
Do. Paper, 21s. 6d. per gall.	
French polish, 25s. per gall.	
Turps substitute, 4s. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £55 per ton
Mate, no fixed rate.	Do. in small sections as reinforcement, £39 per to
Erector, 1s. 10d. per hour.	Do. in compounds, £44 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £43 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buildi in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s. 6d. per cw
Cast-iron, heavy	Fixing only corrugated sheeting, including washe and driving screws, 1s. 5d. per yd.
Do. Light	
Note.—The price and supply of castings are uncertain owing to trade disputes.	
Sheet steel:	
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 4½d. per ft. sup.	Fibre boardings, fixed on, but not including stuc or grounds, 6d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 5d. per y sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in pla colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 2s. 10d. per ft. sup.	Hanging only metal casements in, but not includin wood frames, 5s. 6d. each.
Do. in metal frames, 3s. 10d. per ft. sup.	Building in metal casement frames, 6d. per ft. su
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not includin battens or boards, plain "diamond" per squar grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cos of cement used (about 3s. to 4s. per bushel c cement).
Wrought iron R.W. goods:	
R.W. gutter, 4 in., per yd. 1s. 10d.	Gutter-fixed, 1s. 4½d. per ft.
R.W.P., 3 in., per yd. 2s. 6d.	R.W.P. fixed, 1s. 9d. per ft.

NOTE: The prices have been amended to cover the recent increases in Railway Rates.
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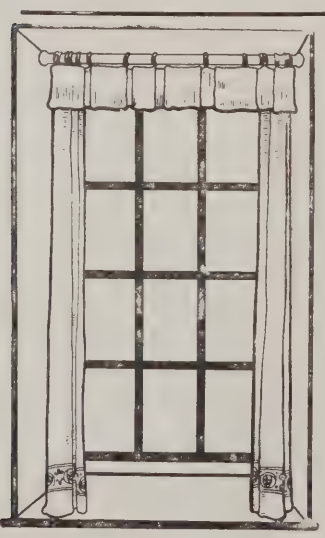

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Electrical Notes

Wire Protection and Switch Control.

The more recently developed methods of protecting and covering electric wires have been produced chiefly with the idea of making the cable self-protecting—that is to say, eliminating the separate sheath or casing and so producing an insulated and protected conductor which could be fixed to the surface of walls and ceilings. The electrical conductors, tinned copper wires, are insulated with a covering of vulcanised indiarubber on to which a continuous sheath of tinned copper or a tin alloy is drawn or moulded by special machinery; the result is a metal-sheathed insulated cable relatively small in diameter, neat in appearance, easy to bend and fix, and capable of being painted or treated to match its surroundings;

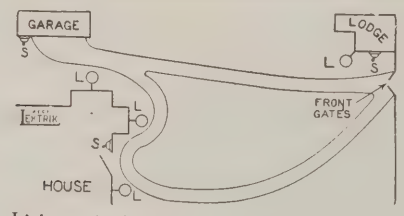
On certain electricity systems and for private generating plants it becomes permissible to use the protective metal sheathing as the return or earthed conductor; but for general use the two separate conductors are enclosed in one sheath producing a compact cable of round or flattened section.

These special cables are sold in conjunction with a complete system of jointing and connection boxes, and apart from questions of cost prove very useful for wiring buildings where elaborate mouldings and valuable ornamentation in stone or other material make excessive cutting away objectionable.

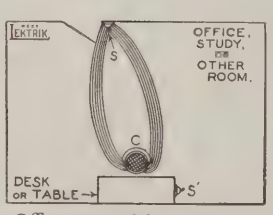
Similarly they offer great advantages for underground work, damp positions and situations where a continuous protection by non-corrodible metal is of value.

In another class is found a useful form of cable in which the outer or protective covering is made of thick and tough rubber similar to that used for the tyres of motor vehicles. This will withstand moisture, blows, and almost any attack except from a sharp instrument. It affords an easy means of wiring in difficult positions and for extensions where disturbance is undesirable. This class of cable has also been used very largely in chemical work, for trailing conductors to portable stoves, machines and handlamps.

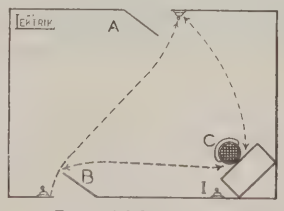
In ordinary house-work, unless some specification of requirements is provided by the architect, it is usual to put forward only the simplest and plainest provisions, and it is seldom that the possibilities of subdividing light, using scientifically designed glassware, and fitting multiple switch control are even put to the purchaser, yet these requirements seldom add any considerable percentage to the total cost of the work, and in a new house their effect upon the total expenditure is negligible; many of them actually reduce the user's bill for electricity, and all of them add to his comfort, security, and ease of working. It is well worth while to ascertain the additional cost of fitting double-ended or intermediate switch controls to the lighting of halls, stairs, and passages; the approaches to outworks and garages, and also to explore the possibilities of two or more point switching in offices, living and bedrooms, refinements in ease of control lead to economy in use, safety and efficient working.



Lights at Lodge, Garage and Front Entrance controlled from either point.



Office, &c., Light controlled at S and S'.



Room Light controlled from either entry.

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It provides, for the first time, the means of drawing up similar schemes, *with absolute accuracy*. For this purpose, it includes a series of patented mechanical colour charts, designed for the selection of colour schemes and harmonising colours. By the use of these charts the exact complementary of any given colour is at once disclosed, and at the same time not only those other colours that can be used to produce any desired scheme, but also the proportion of each that must be used to give the best possible effect. These charts teach, moreover, in a particularly valuable manner, the whole theory and practice of colour.

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But, apart even from this unique invention, the many large facsimile water-colour drawings of specimen rooms would be extremely valuable as showing practical and economical schemes of decoration that will appeal as being decidedly novel and at the same time in the best of taste. Moreover, these plates are the first large-size plates which show how windows can be treated effectively and without obscuring the light.

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The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

Attention is given to shoring, underpinning, and dealing with dangerous structures—a matter that is of increasing importance to builders whose businesses lie in our great cities.

Examples are included in this work of well-written specifications, such as are now in use for small and large works.

All information concerning the heating and ventilating of buildings, the introduction of electric light, and of gas lights of many new forms, on the combination of steel and concrete for large buildings, on the principles of drainage, on dilapidations, easements, etc., etc., is found here.

No point that concerns builders and building has been overlooked, and it is safe to say that this work—which is issued on terms that bring it within reach of everyone interested in the building trades—will save its cost when it has been in use a very short time.

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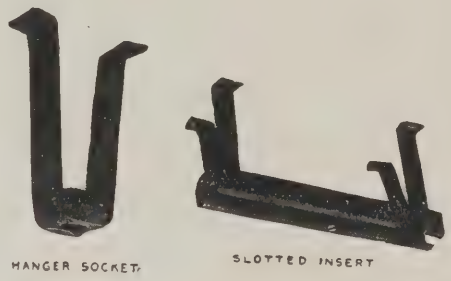

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Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR	
Excavator, 1s. 9d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. 6d. per yd. cube.
Labourer, 1s. 9d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Navvy, 1s. 9d. per hour.	In stiff clay, add 50 per cent.
Timberman, 1s. 10d. per hour.	In underpinning, add 120 per cent.
Scaffolder, 1s. 10d. per hour.	In rock, including blasting, add 225 per cent.
Watchman, 6s. 6d. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
Broken brick or stone, 2 in., 7s. per yd.	Return, fill, and ram, ordinary earth, 3s. 3d. per yd.
Thames ballast 19s. per yd	Spread and level, including wheeling, 3s. 4d. per yd.
Pit Gravel, 20s. per yd.	Planking, 6d. per ft. sup.
Pit sand, 22s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Washed sand, 23s. 6d. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 9d. per yd. sup.
Screened ballast or gravel, add 10 per cent. per yd.	Do. 6 in. thick, 4s. 6d. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Puddling, 36s. per yd. cube.
Portland cement, 80s. per ton.	Cement concrete, 4.2.1, 55s. per yd. cube.
Do. in small lots, ex London stock, 100s. per ton.	Do. 6.2.1, 52s. per yd. cube.
Lias lime, 70s. per ton.	Do. in upper floors, add 12½ per cent.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in ferro concrete work, add 20 per cent.
Transport hire per day:	Do. in underpinning, add 50 per cent.
Cart and horse, 28s.	Lias lime concrete, 48s. per yd. cube.
3-ton motor lorry, £6 15s	Breeze concrete, 34s. per yd. cube.
Steam lorry, 5-ton, £6.	Do. in lintols, etc., 5s. 5d. per ft. cube.
Trailer, 32s. 6d.	
Steam roller, £4 10s.	
Water cart, 30s.	
DRAINER.	
Labourer, 1s. 9d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 3s., 6-in. 4s. 6d., 9-in., 6s. per ft.
Timberman, 1s. 10d. per hour.	Cast-iron drains, jointed in lead, 4-in. 9s., 6-in. 15s. 3d., 9-in. 26s. 6d. per ft.
Bricklayer, 2s. 0½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. 1d. per hour.	
Watchman, 6s. 6d. per shift.	
Stoneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
Portland cement and sand, see Excavator above.	
Lead for caulking, 60s. per cwt.	
Basket, 1s. 9d. per lb.	
BRICKLAYER.	
Bricklayer, 2s. 0½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £49 per rod.
Labourer, 1s. 9d. per hour.	Do. in cement do. £53 per rod.
Scaffolder, 1s. 10d. per hour.	Do. in stocks, add 20 per cent. per rod.
London stocks, 86s. per M.	Do. in blues, add 320 per cent. per rod.
Flettons, 75s. per M.	Do. circular on plan, add 12½ per cent. per rod.
Staffordshire blue, 220s. per M.	Facings, fair, 3d. per ft. sup. extra.
Firebricks, 2½ in., 223s. per M.	Do. picked Flettons, 5d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £25 per M.	Do. picked stocks, 7d. per ft. sup. extra.
Do. headers, £24 10s. per M.	Do. salt, white, or ivory glazed, in areas, 6s. per ft. sup. extra.
Colours, extra, 130s. per M.	Struck pointing, 4½d. per ft. sup. extra.
Seconds, less, £1 per M.	Tuck pointing, 1s. per ft. sup. extra.
Cement and sand, see Excavator above.	Weather pointing, 4½d. per ft. sup. extra.
Lime, grey stone, 65s. per ton.	Granolithic and Cement paving, 1-in., 5s. 3d. per yd. sup.
Fixed lime mortar 26s. per yd.	Do. 1½-in., 6s. per yd. sup.
Damp course, in rolls of 9½ in. 4s., 9 in. 7s. 3d., 14 in. 10s. 9d., 18 in. 14s. per roll.	Do. 2-in., 8s. per yd. sup.
	Fixing only damp course, ex rolls, 2½d. per ft. sup.
	Asphalte, damp course, ½in., 1s. 6d. per ft. sup.
	Do. vertical 2s. per ft. sup.
	Slate damp course, 2s. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 12s. per yd.
	Do. skirting, 6-in., 1s. 8d. per yd.
MASON (INCLUDING SLATE).	
Mason, 2s. 0½d. per hour.	Hoisting and setting stone, 1s. 11d. per ft. cube.
Do. fixer, 2s. 1½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 1s. 9d. per hour.	Plain face Portland, basis, 2s. 6d. per ft. sup.
Scaffolder, 1s. 10d. per hour.	Do. circular, 3s. 4d. per ft. sup.
Portland stone:	Sunk face, 3s. 6d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Do. circular, 4s. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Joints, arch, 2s. 3d. per ft. sup.
Bath stone, 3s. 1d. per ft. cube.	Do. sunk, 2s. 3d. per ft. sup.
Ansfield red, 7s. 6d.	Do. do. circular, 3s. per ft. sup.
(Usual trade extras for large blocks.)	Circular-circular work, 15s. per ft. sup.
	Plain moulding, straight, per inch of girth, 9d. per ft. run.
	Do. circular, 1s. per ft. run.
	Half sawing, 1s. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 10s. 3d.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
	Rubbed round nosing to do. 8d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 82s., Countess 89s., Duchess 98s. per square.
Tiler, 1s. 11½d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
Scaffolder, 1s. 10d. per hour.	Delabole do. 100s. per square.
Labourer, 1s. 9d. per hour.	Add, if vertical, 6s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 94s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 87s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 133s. per M.	
Machine-made tiles, 124s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 0½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. 3d. per ft. cube.
Joiner, 2s. 0½d. per hour.	Do. framed in floors, roofs, etc., 14s. per ft. cube.
Labourer, 1s. 9d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 18s. per sq.
Archangel:	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 98s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 29s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 108s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in 3s 3d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1¼-in. 16s. 6d. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 4s. 9d. per ft. sup.
	2-in. deal strings, fixed, 4s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 1d. per hour.	Milled lead and labour in gutters, flashings, etc., 80s.
Mate or labourer, 1s. 9d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 2d. per ft.
Lead, milled sheet, 55s. per cwt.	Do. ¾-in., 2s. 11d. per ft.
Do. Drawn pipes, 55s. 6d. per cwt.	Do. 1-in., 3s. 4d. per ft.
Do. soil pipe, 60s. per cwt.	Do. 1¼-in., 4s. per ft.
Do. scrap, 28s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 10s. 9d. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 3-in., 11s. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 4-in., 15s. 9d. per ft.
Do. fine, 2s. 6d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 2d. per ft.
Red and white lead, 10d. per lb.	Do. 3-in., 2s. 6d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 3d. per ft.
L.C.C. soil, 2-in. 5s., 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Do. O.G., 4-in., 2s. 3d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in., 4s. 6d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 48s. each.
	Baths only, with all joints, 40s. each.
	Lavatory basins only, with all joints on brackets, 33s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Cathedral, ordinary, 6½d. per ft.	
Do. double, 9d. per ft.	
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6¼d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 0½d. per hour. hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 1s. 9d. per hour.	Metal lathing, 2s. 10d. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Chalk lime, 65s. per ton.	Do. vertical, 3s. 10d. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 4s. 10d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 2d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not includin, lathing, any of foregoing, 8d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 6d. per yd.
	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Sirapite, 67s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Do. Fine, 68s. 6d. per ton.	
Plaster, 83s. per ton	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 11½d. per hour.	Lime whiting, 2 coats, 6½d. per yd. sup.
Labourer, 1s. 9d. per hour.	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
French polisher, 2s. 1d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
Paperhanger, 1s. 11½d. per hour.	Knot, stop, and prime, 9d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	Do. subsequent coats, 1s. 3d. per yd. sup.
	Do. enamel coat, 2s. 5d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Brush grain and 2 coats varnish, 4s. 10d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Figured do. do. 8s. per yd. sup.
	French polishing, 1s. 10d. per ft. sup.
Turpentine, 18s. 6d. per gal.	Stripping old paper and preparing, 2s. per piece.
	Hanging paper, ordinary, 2s. 3d. per piece.
	Do. fine, 3s. and upwards per piece.
Liquid driers, 22s. per gall	Varnishing paper, 1 coat, 15s. 6d. per piece.
Knotting, 29s. per gall.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Distemper, washable in ordinary colours, 55s. per cwt.	Varnishing, hard oak, 1st coat, 1s. 6d. per yd. sup.
	Do. each subsequent coat, 1s. 4d. per yd. sup.
Petrifying liquid, 4s. 3d. per gall.	
Double size, 7s. per firkin.	
Pumice stone, 9d. per lb.	
Hard stopping 9d. per lb.	
Varnish, hard oak, 19s. per gall.	
Do. Outside do., 19s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 22s. 6d. per gall.	
Do. Flat, 22s. 6d. per gall.	
Do. Paper, 22s. 6d. per gall.	
French polish, 28s. per gall	
Turps substitute, 7s. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £55 per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £39 per to
Erector, 1s. 10d. per hour.	Do. in compounds, £44 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reinforcement, £43 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including buildi in, 58s. 6d. per cwt.
Mild steel in British standard sections, £32 per ton.	Do. in light railings and balusters, 78s 6d. per cw
Sheet steel:	Fixing only corrugated sheeting, including washe and driving screws, 1s. 5d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including stu or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 5d. per y sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in pla colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not includi wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per ft. su
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not includi battens or boards, plain "diamond" per squa grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the co of cement used (about 3s. to 4s. per bushel cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 6d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 1d. per ft.

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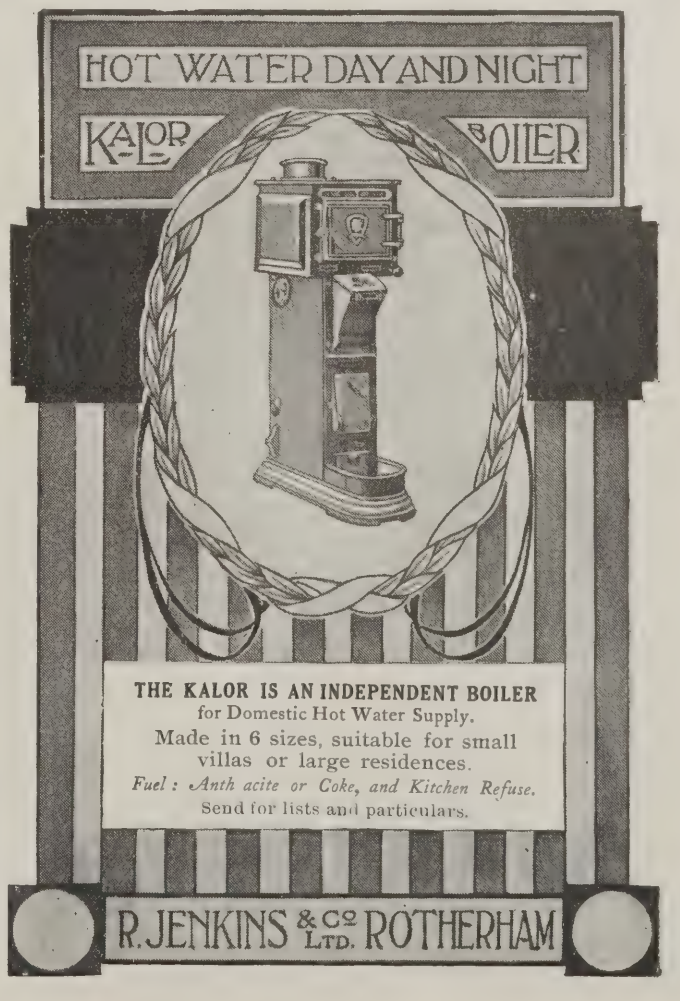

Electrical Notes

Kitchen Equipment.

When a house is wired for the use of electricity it is possible to make many rearrangements and adjustments to save labour, so that work may be carried out in the position most convenient in regard to light and the fixed facilities of the house. This is particularly noticeable in the case of cooking. The electric range, which can be placed where most convenient, stands upon the floor without foundations, brickwork or flues, is independent of the structure of the house, and can be fixed where cooking should be carried out, in a good light, convenient to the sink, the dresser, and the store cupboard. These advantages of the electrical method have in some cases been utilised so as to result in combined kitchen equipments, which contain in one piece, dresser, store-cupboard, electric cooker and sink—a piece of furniture in which everything is found for the preparation, cooking, and clearing up of a complete meal.

Table Appliances.

The householder is usually first introduced to electric cooking by means of table appliances. A great variety of pieces of apparatus are now sold for heating food or liquids, toasting, etc., which find favour by reason of their attractive appearance and general handiness. According to the "Beama," these table pieces are usually operated from a convenient lamp-socket or wall-plug, generally with a trailing cord from the lighting fitting over the table. Several types of fitting permit small apparatus, fan, toaster, or kettle to be connected without interfering with the use of light or causing waste of light in daytime. But such devices are not ideal, and in any case the use of apparatus on trailing cords from lighting pendants is apt to cause unpleasant swinging of the lamps. A better method is to provide a separate pendant-lamp socket or plug-receptacle, which may be connected to the lighting outlet or ceiling rose, arranged to hang clear of other fittings and reserved for the table appliances.

The difficulties of providing plug receptacles on tables which may be moved about, and where several pieces of table cooking or other apparatus are regularly used, make it worth while to provide for them a small table or shelf adjacent to a wall—an electric sideboard in fact, in which these operations can be carried out conveniently and electricity obtained without trouble or risk.

Hot-Water Supply.

Many engineers see in the hot-water supply an opportunity to introduce an indirect form of energy storage which would draw upon the central station for electricity at times when the other demands for power are low, and accumulate heat against the intermittent needs of the household. Working upon these lines, manufacturers have produced electric water heaters which are in successful use.

Broadly, electric water heaters, excluding kettles and boiling utensils, are divided into two classes, the heat accumulator and the geyser or instantaneous heater. The heat accumulators consist of tanks in which water is heated by the flow of electricity through encased conductors which are immersed in the body of the water and so operate at a very high efficiency. In some types precautions are also taken to prevent too rapid filling with cold water after use in order that the heated water shall not be drawn off below a certain temperature. The maximum temperature attainable by the water in these heaters is restricted to about 150 deg. F., and prevents the deposition of lime and also the discolouration of the polished surface of the tank. At the same time, the water may be kept at this temperature for long periods without becoming "flat" or undrinkable. With apparatus of this class, it is possible to obtain ten gallons of water heated from about 55 deg. F. to 150 deg. F. per day of twenty-four hours with a consumption of a little over 3½ units of electricity which, spread over the twenty-four hours, only calls for supply at the rate equal to that of 3.50 candle-power metallic filament lamps. In the geyser type of apparatus, high-powered electric heaters are allowed to act upon a stream of water, supplying enough for toilet basin, shaving, making tea or small and intermittent needs. These appliances are convenient, ready without preparation at any time, and fill a useful field. Where numerous and associated with a general electricity supply to large buildings they tend, like all intermittently used apparatus, to dovetail in their demand, and may be regarded as valuable additions to the general utility of the electric service.

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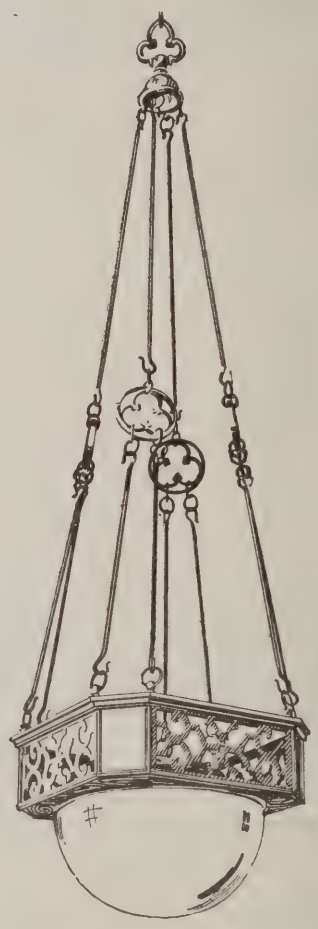

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LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR	
xcavator, 1s. 9d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 3s. 6d. per yd. cube.
abourer, 1s. 9d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
avvy, 1s. 9d. per hour.	In stiff clay, add 50 per cent.
imberman, 1s. 10d. per hour.	In underpinning, add 120 per cent.
affolder, 1s. 10d. per hour.	In rock, including blasting, add 225 per cent.
atchman, 7s. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
roken brick or stone, 2 in., 7s. per yd.	Return, fill, and ram, ordinary earth, 3s. 3d. per yd.
ames ballast 19s. per yd	Spread and level, including wheeling, 3s. 4d. per yd.
t Gravel, 20s. per yd.	Planking, 6d. per ft. sup.
t sand, 22s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
ashed sand, 23s. 6d. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 3s. 9d. per yd. sup.
reened ballast or gravel, add 10 per cent. per yd.	Do. 6 in. thick, 4s. 6d. per yd. sup.
inker, breeze, etc., prices according to locality.	Puddling, 36s. per yd. cube.
ortland cement, 80s. per ton.	Cement concrete, 4.2.1, 58s. per yd. cube.
. in small lots, ex London stock, 100s. per ton.	Do. 6.2.1, 53s. per yd. cube.
as lime, 70s. per ton.	Do. in upper floors, add 12½ per cent.
cks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in ferro concrete work, add 20 per cent.
ansport hire per day:	Do. in underpinning, add 50 per cent.
Cart and horse, 28s.	Lias lime concrete, 48s. per yd. cube.
3-ton motor lorry, £6 15s	Breeze Concrete, 35s. per yd. cube.
Steam lorry, 5-ton, £6.	Do. in lintols, etc., 5s. per ft. cube.
Trailer, 32s. 6d.	
Steam roller, £4 10s.	
Water cart, 30s.	
RAINER.	
abourer, 1s. 9d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 3s. 3d., 6-in. 4s. 10d., 9-in. 6s. 6d. per ft.
mberman, 1s. 10d. per hour.	Cast-iron drains, jointed in lead, 4-in. 9s., 6-in. 15s. 3d., 9-in. 26s. 6d. per ft.
icklayer, 2s. 0½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
umber, 2s. 1d. per hour.	
atchman, 7s. per shift.	
oneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
st iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
rtland cement and sand, see Excavator above.	
ad for caulking, 55s. per cwt.	
sket, 1s. 9d. per lb.	
ICKLAYER.	
icklayer, 2s. 0½d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £50 per rod.
abourer, 1s. 9d. per hour.	Do. in cement do. £53 per rod.
affolder, 1s. 10d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
	Do. circular on plan, add 12½ per cent. per rod.
ndon stocks, 88s. per M.	Facings, fair, 3d. per ft. sup. extra.
ettons, 81s. 6d. per M.	Do. picked Flettons, 5d. per ft. sup. extra.
affordshire blue, 220s. per M.	Do. picked stocks, 7d. per ft. sup. extra.
rebricks, 2½ in., 223s. per M.	Do. salt, white, or ivory glazed, in areas, 6s. per ft. sup. extra.
azed, salt, white, and vory stretchers, £25 per M.	Struck pointing, 4½d. per ft. sup. extra.
headers, £24 10s. per M.	Tuck pointing, 1s. per ft. sup. extra.
lours, extra, 130s. per M.	Weather pointing, 4½d. per ft. sup. extra.
onds, less, £1 per M.	Granolithic and Cement paving, 1-in., 5s. per yd. sup.
ment and sand, see Excavator above.	Do. 1½-in., 5s. 9d. per yd. sup.
ne, grey stone, 67s. per on.	Do. 2-in., 7s. per yd. sup.
xed lime mortar 27s. per yd.	Fixing only damp course, ex rolls, 2½d. per ft. sup.
mp course, in rolls of ½ in. 4s. 3d., 9 in. 7s. 6d., 4 in. 11s., 18 in. 15s. 6d. per roll.	Asphalte, damp course, ½in., 1s. 6d. per ft. sup.
	Do. vertical 2s. per ft. sup.
	Slate damp course, 2s. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 12s. per yd.
	Do. skirting, 6-in., 1s. 8d. per yd.
ASON (INCLUDING SLATE).	
ason, 2s. 0½d. per hour.	Hoisting and setting stone, 1s. 11d. per ft. cube.
fixer, 2s. 1½d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
abourer, 1s. 9d. per hour.	Plain face Portland, basis, 2s. 6d. per ft. sup.
affolder, 1s. 10d. per hour.	Do. circular, 3s. 4d. per ft. sup.
	Sunk face, 3s. 6d. per ft. sup.
rtland stone:	Do. circular, 4s. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. 3d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. 3d. per ft. sup.
th stone, 3s. 1d. per ft. cube.	Do. do. circular, 3s. per ft. sup.
nsfield red, 7s. 6d.	Circular-circular work, 15s. per ft. sup.
sual trade extras for arge blocks.)	Plain moulding, straight, per inch of girth, 9d. per ft. run.
	Do. circular, 1s. per ft. run.
	Half sawing, 1s. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 8d. per ft. sup.
	Rubbed round nosing to do. 8d. per ft. lin.
	York Steps, rubbed T. & R., 40s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 11½d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 95s., Countess 103s., Duchess 117s. per square.
Tiler, 1s. 11½d. per hour.	
Scaffolder, 1s. 10d. per hour.	Westmoreland, in diminishing courses, 150s. per square.
Labourer, 1s. 9d. per hour.	Delabole do. 115s. per square.
N.B.—Tiling is often "Piecework."	Add, if vertical, 8s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 105s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 92s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 0½d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 13s. 3d. per ft. cube.
Joiner, 2s. 0½d. per hour.	Do. framed in floors, roofs, etc., 14s. per ft. cube.
Labourer, 1s. 9d. per hour.	Do. framed in trusses, etc., including ironwork, 14s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 18s. per sq.
	Sarking felt laid, 1 ply, 1s. 8d., 3 ply, 2s. 4d. per yd.
Archangel (equal to) 1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or 1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Centering for concrete, etc., including horsing and striking, 98s. per sq.
	Slate battening, 29s. per sq.
	1-in. deal gutter board on firring, 108s. per sq.
	1¼-in. molded casements in 4 sqs., glazing beads and hung, 3s. 9d. per ft. sup.
	2-in. do. do. 4s. 3d. per ft. sup.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 4s. 10d. per ft. sup.
Do. F.E., 3rd and U/S. £58.	Doors, 4-pan. sq. b.s., 2-in. 4s. per ft. sup.
Battens, 3rd and U/S. £51.	Do. do. do. 1½in. 3s 3d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Do. do. molded b.s., 2-in. 4s. 6d. per ft. sup.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
	If in oak multiply 6 times.
	If in mahogany multiply 6 times.
	If in teak multiply 7½ times.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 12s., 1-in. 14s. 6d., 1½-in. 16s. 6d. per yd. sup., average.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Staircase work, deal: 1-in. riser, 1½-in. tread, fixed, 4s. 9d. per ft. sup. 2-in. deal strings, fixed, 4s. 6d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	
Mahogany, 4s. per ft. sup. of 1 in.	
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	
Teak, 4s. 6d. per ft. sup. of 1 in.	
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 1d. per hour.	Milled lead and labour in gutters, flashings, etc., 80s.
Mate or labourer, 1s. 9d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 2d. per ft.
	Do. ¾-in., 2s. 11d. per ft.
Lead, milled sheet, 55s. per cwt.	Do. 1-in., 3s. 4d. per ft.
Do. Drawn pipes, 55s. 6d. per cwt.	Do. 1¼-in., 4s. per ft.
Do. soil pipe, 60s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 10s. 9d. per ft.
Do. scrap, 28s. per cwt.	Do. 3-in., 11s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 15s. 9d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 2d. per ft.
Do. fine, 2s. 3d. per lb.	Do. 3-in., 2s. 6d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. 3d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Do. O.G., 4-in., 2s. 3d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 3d. per ft.
	Do. 3-in. 4s. 6d. per ft.
	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 48s. each. Baths only, with all joints, 40s. each. Lavatory basins only, with all joints on brackets, 33s. each.

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GLAZIER.	
Glazier, no fixed rate.	
Glass:	
Clear, 21 oz. 7d., 26 oz. 8d., 32 oz. 11d. per ft.	Glazing, in putty, clear, 21 oz. 1s., 26 oz. 1s. 1d., 32 oz. 1s. 2½d. per ft.
	Glazing in beads, 21 oz. 11d., 26 oz. 1s., 32 oz. 1s. 1½d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Do. double, 9d. per ft.	
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ⅛ in. 6½d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 0½d. per hour.	
Labourer, 1s. 9d. per hour.	
	Lathing with sawn laths, 2s. yer yd.
	Metal lathing, 2s. 10d. per yd.
Chalk lime, 65s. 6d. per ton	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 6d. per yd.
Hair, 35s. per cwt.	
Sand and cement, see "Excavator," etc., above.	Do. vertical, 3s. 10d. per yd.
Lime putty, 5s. 3d. per cwt	Render, on brickwork, 1 to 3, 4s. 3d. per yd.
Hair mortar, 44s. 6d. per yd.	Render in Portland and set in fine stuff, 4s. 7d. per yd.
Fine stuff, 45s. 6d. per yd.	Render, float, and set, trowelled, 4s. 10d. per yd.
Sawn laths, 4s. per bdl.	Render and set in Sirapite, 4s. 2d. per yd.
Keene's cement, 90s. per ton.	Do. in Thistle plaster, 4s. per yd.
	Extra, if on but not includin, lathing, any of foregoing, 8d. per yd.
Sirapite, 70s. per ton.	Extra, if on ceilings, 6d. per yd.
Do. Fine, 71s. 6d. per ton.	Angles, rounded, Keenes on Keenes, 9½d. per ft. lin.
Plaster, 83s. per ton	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4d. per ft. lin.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	White glazed tiling set in Portland and jointed in Parian, 35s. 6d. per yd.
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 1s. 11½d. per hour.	
Labourer, 1s. 9d. per hour.	
French polisher, 2s. 1d. per hour.	
Paperhanger, 1s. 11½d. per hour.	
	Lime whiting 2 coats, 7d. per yd. sup.
	Wash, stop, and 2 coats whiten, 11d. per yd. sup.
	Do. and 2 coats distemper with proprietary distemper, 1s. 4d. per yd. sup.
	Knot, stop, and prime, 9d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	
Linseed oil, raw, 11s. per gall.	Do. subsequent coats, 1s. 3d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Do. enamel coat, 2s. 5d. per yd. sup.
Turpentine, 18s. 6d. per gal.	Brush grain and 2 coats varnish, 4s. 10d. per yd. sup.
Liquid driers, 22s. per gall	Figured do. do. 8s. per yd. sup.
Knotting, 29s. per gall.	French polishing, 1s. 10d. per ft. sup.
Distemper, washable in ordinary colours, 55s. per cwt.	Stripping old paper and preparing, 2s. per piece.
Petrifying liquid, 4s. 3d. per gall.	Hanging paper, ordinary, 2s. 3d. per piece.
Double size, 7s. per firkin.	Do. fine, 3s. and upwards per piece.
Pumice stone, 9d. per lb.	Varnishing paper, 1 coat, 15s. 6d. per piece.
Hard stopping 9d. per lb.	Canvas, strained and fixed, 2s. 6d. per yd. sup.
Varnish, hard oak, 20s. per gall.	Varnishing, hard oak, 1st coat, 1s. 6d. per yd. sup.
Do. Outside do., 20s. 6d. per gall.	Do. each subsequent coat, 1s. 4d. per yd. sup.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 7s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £59 10s. per ton.
Mate, no fixed rate.	Do. in small sections as reinforment, £44 per ton.
Erector, 1s. 10d. per hour.	Do. in compounds, £52 per ton.
Fitter, 1s. 10d. per hour.	Do. in bar or rod reeinforcement, £46 per ton.
Labourer, 1s. 8d. per hour.	Wrot iron in chimney bars, etc., including building in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including washers and driving screws, 1s. 7d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6¾d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 5s. 5d. per yd. sup.
Do. corrugated, 7s. per yd. sup.	Do. do corrugated, 9s. 4d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 8s. 9d. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 5s. 6d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 6d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square, grey, 67s., red 69s. 6d.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 6d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 1d. per ft.

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Electrical Notes

The Efficient Use of Electric Light.

In a previous article a description was given of the latest and most economical electric lamps and of the general lines upon which an electric installation should be laid out in order to obtain the most economical results. At the conclusion of that article it was found that, as electric lighting with half-watt lamps and current at 8d. per unit was equivalent to what it would be with carbon lamps and 1d. per unit, there was not the same urgent need as formerly to study detail economies in lighting. On the other hand, it was remarked that economy is always economy, and that electricity, like everything else, is not so low in price as it was five years ago.

Another factor which bears upon this discussion is the increase in the standard of illumination. When the tungsten lamp (taking one-fourth of the current, light for light, of the carbon lamp) was introduced, people felt encouraged to use more light; and they did so. Again, the half-watt or gas-filled electric lamp is twice as economical as the ordinary vacuum type, but it is being used as much to increase the volume of light as to reduce bills for electric current. What this development really means for the architect is that he is free to arrange a lighting scheme upon a much more lavish scale than, with due consideration for his client's purse, he could have indulged in twenty years ago.

Flexibility of Electric Light.

At the same time electric light has become a much more flexible instrument. When the arc lamp and the carbon lamp were the only forms available, the designer of an illumination system was restricted in his arrangements. There was nothing which he could conveniently use between the low candle-powers of the carbon lamp and the high of the arc lamp. In order to get intermediate candle-powers he had to multiply the number of carbon lamps—an expensive arrangement both in initial and in running costs. Nowadays there are many grades of vacuum-type electric lamps from ten candle-power upwards, while the half-watt lamp is supplied in the following sizes: 100, 150, 200, 300, 500, 1,000, and 1,500 watts. Clearly, therefore, it is a simple matter to adjust the sources of light efficiently to the degree of illumination required. In lighting a factory hall, or any other building, lighting units from 10 to 3,000 candle-power are obtainable.

Scientific Illumination.

Until recent years, when illumination began to be studied scientifically, the principle underlying the lighting of buildings seemed to be: "Look after the candle-power and the illumination will look after itself." Given a blaze of light everybody was happy. From the standpoint of efficiency the average lighting installation was not much better than the solar system, regarded as an arrangement for illuminating the earth. Only a fraction of the light of the sun is usefully directed toward the earth; the rest is wasted (so far as we are concerned) in space. Electric lamps, like the sun, radiate light in all directions, the vacuum-type lamps sending most light horizontally, and the half-watt type distributing it more equally. The basic problem of efficient lighting is to utilise this radiant energy to the best advantage according to the dimensions of the building and the purpose for which it is used.

The practical meaning of the efficient use of light can be demonstrated very simply. An ordinary electric lamp of thirty or forty candle-power ought to provide enough light for comfortable reading to anyone sitting under it. And the lamp ought to provide more light when used bare than when fitted with any shade or reflector. Nevertheless, the illumination which it gives when thus employed will be found unsatisfactory, even though the surrounding parts of the room seem brightly lit. The trouble is not remedied when the lamp is brought lower, because then the intensely brilliant filament glares into the eyes, contracting the pupils and making it difficult for one to see clearly any objects in the vicinity.

If, however, the lamp be fitted with a well-designed reflector of prismatic or other special glass a marked transformation takes place. The degree of illumination beneath the lamp is multiplied and the light is diffused, so that reading becomes both easy and pleasant. Moreover, as one moves about the room there is no sense of glare from the lamp.

(To be concluded.)

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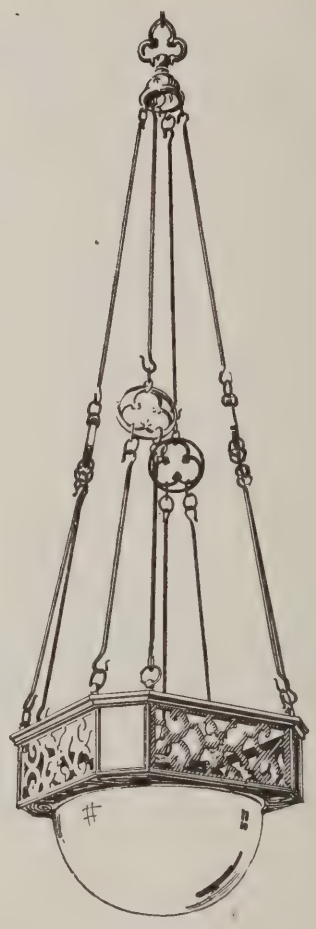

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Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR	
Excavator, 2s. 1d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 2d. per yd. cube.
Labourer, 2s. 1d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Navvy, 2s. 1d. per hour.	In stiff clay, add 50 per cent.
Timberman, 2s. 2d. per hour.	In underpinning, add 120 per cent.
Scaffolder, 2s. 2d. per hour.	In rock, including blasting, add 225 per cent.
Watchman, 7s. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
Broken brick or stone, 2 in., 7s. per yd.	Return, fill, and ram, ordinary earth, 4s. per yd.
Thames ballast 19s. per yd	Spread and level, including wheeling, 4s. 1d. per yd.
Pit Gravel, 20s. per yd.	Planking, 8d. per ft. sup.
Pit sand, 22s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Washed sand, 23s. 6d. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 4s. 6d. per yd. sup.
Screened ballast or gravel, add 10 per cent. per yd.	Do. 6 in. thick, 5s. 3d. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Puddling, 41s. per yd. cube.
Portland cement, 80s. per ton.	Cement concrete, 4.2.1, 66s. per yd. cube.
Do. in small lots, ex London stock, 100s. per ton.	Do. 6.2.1, 63s. per yd. cube.
Lias lime, 70s. per ton.	Do. in upper floors, add 12½ per cent.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in ferro concrete work, add 20 per cent.
Transport hire per day:	Do. in underpinning, add 50 per cent.
Cart and horse, 28s.	Lias lime concrete, 55s. per yd. cube.
3-ton motor lorry, £6 15s	Breeze Concrete, 40s. per yd. cube.
Steam lorry, 5-ton, £6.	Do. in lintols, etc., 5s. 9d. per ft. cube.
Trailer, 32s. 6d.	
Steam roller, £4 10s.	
Water cart, 20s.	
DRAINER.	
Labourer, 2s. 1d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 4s., 6-in. 5s. 9d., 9-in. 7s. per ft.
Timberman, 2s. 2d. per hour.	Cast-iron drains, jointed in lead, 4-in. 12s., 6-in. 21s., 9-in. 30s. per ft.
Bricklayer, 2s 4d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. 4½d. per hour.	
Watchman, 7s. per shift.	
Stoneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
Portland cement and sand, see Excavator above.	
Lead for caulking, 55s. per cwt.	
Basket, 1s. 9d. per lb.	
BRICKLAYER.	
Bricklayer, 2s. 4d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £55 per rod.
Labourer, 2s. 1d. per hour.	Do. in cement do. £60 per rod.
Scaffolder, 2s. 2d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
London stocks, 88s. per M.	Do. circular on plan, add 12½ per cent. per rod.
Flettons, 81s. 6d. per M.	Facings, fair 4d. per ft. sup. extra.
Staffordshire blue, 220s. per M.	Do. picked Flettons, 6d. per ft. sup. extra.
Firebricks, 2½ in., 223s. per M.	Do. picked stocks, 8d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £25 per M.	Do. salt, white, or ivory glazed, in areas, 6s. 4d. per ft. sup. extra.
Do. headers, £24 10s. per M.	Struck pointing, 6d. per ft. sup. extra.
Colours, extra, 130s. per M.	Tuck pointing, 1s. 3d. per ft. sup. extra.
Seconds, less, £1 per M.	Weather pointing, 6d. per ft. sup. extra.
Cement and sand, see Excavator above.	Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
Lime, grey stone, 67s. per ton.	Do. 1½-in., 6s. per yd. sup.
Fixed lime mortar 27s. per yd.	Do. 2-in., 7s. 4d. per yd. sup.
Damp course, in rolls of 4½ in. 4s. 3d., 9 in. 7s. 6d., 14 in. 11s., 18 in. 15s. 6d. per roll.	Fixing only damp course, ex rolls, 3d. per ft. sup.
	Asphalte, damp course, ½in., 1s. 8d. per ft. sup.
	Do. vertical, 2s. 3d. per ft. sup.
	Slate damp course, 2s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 13s. 3d. per yd.
	Do. skirting, 6-in., 1s. 10d. per yd.
MASON (INCLUDING SLATE).	
Mason, 2s. 4d. per hour.	Hoisting and setting stone, 2s. 4d. per ft. cube.
Do. fixer, 2s. 5d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 2s. 1d. per hour.	Plain face Portland, basis, 2s. 10d. per ft. sup.
Scaffolder, 2s. 2d. per hour.	Do. circular, 3s. 9d. per ft. sup.
	Sunk face, 4s. 2d. per ft. sup.
Portland stone:	Do. circular, 4s. 5d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. 8d. per ft. sup.
Bath stone, 3s. 1d. per ft. cube.	Do. do. circular, 3s. 6d. per ft. sup.
Mansfield red, 7s. 6d.	Circular-circular work, 17s. 6d. per ft. sup.
(Usual trade extras for large blocks.)	Plain moulding, straight, per inch of girth, 11d. per ft. run.
	Do. circular, 1s. 2d per ft. run.
	Half sawing, 1s. 2d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 9d. per ft. sup.
	Rubbed round nosing to do., 9d. per ft. lin.
	York Steps, rubbed T. & R., 41s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 3d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s. per square.
Tiler, 2s. 3d. per hour.	Westmoreland, in diminishing courses, 165s. per square.
Scaffolder, 2s. 2d. per hour.	Delabole do., 130s. per square.
Labourer, 2s. 1d. per hour.	Add, if vertical, 9s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
	Double course at eaves, 1s. 1d. per ft. approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 117s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 105s. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 55s. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 4d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 14s. 3d. per ft. cube.
Joiner, 2s. 4d. per hour.	Do. framed in floors, roofs, etc., 15s. per ft. cube.
Labourer, 2s. 1d. per hour.	Do. framed in trusses, etc., including ironwork, 15s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 20s. 6d. per sq.
Archangel (equal to)	Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 104s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 32s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 115s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 11d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 9d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. 6d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1¾in. 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 5s. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. do. 1½-in., 4s. 3d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 13s. 3d., 1-in. 16s., 1¼-in. 18s. per yd. sup., average.
	Staircase work, deal:
	1-in riser, 1¼-in. tread, fixed, 5s. 8d. per ft. sup.
	2-in. deal strings, fixed, 5s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 4½d. per hour.	Milled lead and labour in gutters, flashings, etc., 85s.
Mate or labourer, 2s. 1d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 4d. per ft.
	Do. ¾-in., 3s. per ft.
Lead, milled sheet, 55s. per cwt.	Do. 1-in., 3s. 6d. per ft.
Do. Drawn pipes, 55s. 6d. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. soil pipe, 60s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Do. scrap, 28s. per cwt.	Do. 3-in., 11s. 4d. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 16s. per ft.
Solder, plumbers, 1s. 9d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in. 2s. 4d. per ft.
Do. fine, 2s. 3d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. 6d. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 2d. per ft.
L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 4d. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 6d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Do. 3-in., 4s. 9d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 55s. each.
	Baths only, with all joints, 46s. 6d.
	Lavatory basins only, with all joints on brackets, 37s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 1d., 26 ob. 1s. 2d.
Glass:	Glazing in beads, 21 oz. 1s., 26 oz. 1s. 1d. per ft. per ft.
Clear, 21 oz. 8d., 26 oz. 9d.	Patent glazing in rough plate, normal span, 2s. 3d. to 2s. 6d. per ft.
Cathedral, ordinary, 6½d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Pold. Plate, ¼ in., 5s. per ft.	
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 2s. 1d. per hour.	Metal lathing, 3s. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 9d. per yd.
Chalk lime, 65s. 6d. per ton	Do. vertical, 4s. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 6d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 5s. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 5s. 3d. per yd.
Hair mortar, 44s. 6d. per yd.	Render and set in Sirapite, 4s. 4d. per yd.
Fine stuff, 45s. 6d. per yd.	Do. in Thistle plaster, 4s. 2d. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including, lathing, any of foregoing, 9d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 7d. per yd.
Sirapite, 70s. per ton.	Angles, rounded, Keenes on Keenes, 10d. per ft. lin.
Do. Fine, 71s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 40s. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 2s. 3d. per hour.	Lime whiting 2 coats, 7½d. per yd. sup.
Labourer, 2s. 1d. per hour.	Wash, stop, and 2 coats whiten, 1s. 1d. per yd. sup.
French polisher, 2s. 4d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Paperhanger, 2s. 3d. per hour.	Knot, stop, and prime, 10d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 7d. per yd cup.
Genuine white lead, 105s. per cwt.	Do. subsequent coats, 1s. 5d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 9d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 5s. 6d. per yd. sup.
Turpentine, 15s. 6d. per gal.	Figured do. do. 9s. 6d. per yd. sup.
Liquid driers, 22s. per gall	French polishing, 2s. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 6d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Do. fine, 3s. 3d. and upwards per piece.
Double size, 7s. per firkin.	Varnishing paper, 1 coat, 17s. per piece.
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Hard stopping 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 9d. per yd. sup.
Varnish, hard oak, 20s. per gall.	Do. each subsequent coat, 1s. 6d. per yd. sup.
Do. Outside do., 20s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £59 10s. per ton.
Mate, no fixed rate.	Do. in small sections as reinforment, £44 per ton.
Erector, 2s. 2d. per hour.	Do. in compounds, £52 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £46 per ton.
Labourer, 2s. 1d. per hour.	Wrot iron in chimney bars, etc., including building in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including washers and driving screws, 2s. 2d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 8d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. per yd sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 9s. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 6s. 3d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 7d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square, grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 8d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 3d. per ft.

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Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended May 15 numbered 98. The total number of schemes submitted bv local authorities and public utility societies is now 10,016, comprising about 70,000 acres. The schemes approved now number 6,317, and comprise about 47,800 acres.

One hundred and fifty-nine lay-out schemes were submitted and 135 approved during the week, bringing the total number of lay-outs submitted to 4,285, and the number approved to 3,712.

House plans representing 3,388 houses were submitted during the week and plans for 2,090 houses approved. The total number of houses represented in all the plans now submitted is 197,232, and in the plans approved 184,172.

During the week tenders were submitted for 5,788 houses. Tenders for 6,023 were approved, bringing the total number of houses in tenders submitted to 116,512, and in tenders approved to 102,310.

The Housing Bonds campaign is yielding excellent results in those districts in which it is being conducted with energy and enthusiasm. At Bolton the amount raised to date is £465,000, Bradford has raised over £400,000, Birmingham £250,000. Reports from several of the smaller centres show that sufficient money for present purposes has been raised in a few weeks. Golcar Urban District (near Huddersfield), which has a population of 10,500 has already received subscriptions to the amount of £18,235.

Our Small Advertisements

Many announcements of interest to architects, architects' assistants, builders, and others are contained in this week's Small Advertisements, which appear on page xxvi. An architectural assistant and an architectural draughtsman are required at Southampton, and there are other vacancies at Leek and Hull. The London County Council require a lecturer in mechanics of building at the School of Building, Clapham, and clerks of works are in demand at Wakefield, Buckingham, and Glossop. A structural steelwork engineer in London is open to assist architects and builders in the preparation of designs. Various articles and materials are advertised for sale, including a quantity of steel roof trusses at Chepstow, and a large number of camp buildings at Bexhill-on-Sea, the latter to be disposed of to-day by auction by Messrs. Harris and Gillow.

Norwich Housing Exhibition

From October 1 to October 16 the Norwich Housing and Home Life Economy Exhibition and Fair is to be held at the Agricultural Hall, Norwich. Every article consumed or required in the home, will be suitable for exhibition. A similar exhibition will also be held at the Drill Hall, Bristol, from October 29 to November 13. Full particulars may be obtained from the organising manager, 64, Haymarket, London, S.W.1.

Bell's United Asbestos Co.

The directors of Bell's United Asbestos Co., Ltd., have resolved, in view of the audited accounts to December 31, 1919, and after providing for excess profits duty, to recommend to the shareholders at the general meeting, to be held on June 16, 1920, the payment of a balance dividend of 1s. 6d. per share on the Ordinary shares of the company and a bonus of 1s. per share which, with the interim dividend paid in October last, makes a total distribution of 17½ per cent. for the year. The amount to be carried forward is £26,046.

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR	
Excavator, 2s. 1d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 2d. per yd. cube.
Labourer, 2s. 1d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Navvy, 2s. 1d. per hour.	In stiff clay, add 50 per cent.
Timberman, 2s. 2d. per hour.	In underpinning, add 120 per cent.
Scaffolder, 2s. 2d. per hour.	In rock, including blasting, add 225 per cent.
Watchman, 7s. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
Broken brick or stone, 2 in., 7s. per yd.	Return, fill, and ram, ordinary earth, 4s. per yd.
Thames ballast 19s. per yd	Spread and level, including wheeling, 4s. 1d. per yd.
Pit Gravel, 20s. per yd.	Planking, 8d. per ft. sup.
Pit sand, 22s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Washed sand, 23s. 6d. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 4s. 6d. per yd. sup.
Screened ballast or gravel, add 10 per cent. per yd.	Do. 6 in. thick, 5s. 3d. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Puddling, 41s. per yd. cube.
Portland cement, 80s. per ton.	Cement concrete, 4.2.1, 66s. per yd. cube.
Do. in small lots, ex London stock, 100s. per ton.	Do. 6.2.1, 63s. per yd. cube.
Lias lime, 70s. per ton.	Do. in upper floors, add 12½ per cent.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in ferro concrete work, add 20 per cent.
Transport hire per day:	Do. in underpinning, add 50 per cent.
Cart and horse, 30s.	Lias lime concrete, 55s. per yd. cube.
3-ton motor lorry, £6 15s	Breeze Concrete, 40s. per yd. cube.
Steam lorry, 5-ton, £6.	Do. in lintols, etc., 5s. 9d. per ft cube.
Trailer, 32s. 6d.	
Steam roller, £4 10s.	
Water cart, 32s.	
DRAINER.	
Labourer, 2s. 1d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 4s., 6-in. 5s. 9d., 9-in. 7s. per ft.
Timberman, 2s. 2d. per hour.	Cast-iron drains, jointed in lead, 4-in 12s., 6-in. 21s., 9-in. 30s. per ft.
Bricklayer, 2s 4d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. 4½d. per hour.	
Watchman, 7s. per shift.	
Stoneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
Portland cement and sand, see Excavator above.	
Lead for caulking, 55s. per cwt.	
Gasket, 1s. 9d. per lb.	
BRICKLAYER.	
Bricklayer, 2s. 4d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £55 per rod.
Labourer, 2s. 1d. per hour.	Do. in cement do. £60 per rod.
Scaffolder, 2s. 2d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
	Do. circular on plan, add 12½ per cent. per rod.
London stocks, 88s. per M.	Facings, fair 4d. per ft. sup. extra.
Flettons, 81s. 6d. per M.	Do. picked Flettons, 6d. per ft. sup. extra.
Staffordshire blue, 225s. per M.	Do. picked stocks, 8d. per ft. sup. extra.
Firebricks, 2½in., 230s. per M.	Do. salt, white, or ivory glazed, in areas, 6s. 4d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £25 per M.	Struck pointing, 6d. per ft. sup. extra.
Do. headers, £24 10s. per M.	Tuck pointing, 1s. 3d. per ft. sup. extra.
Colours, extra, 130s. per M.	Weather pointing, 6d. per ft. sup. extra.
Seconds, less, £1 per M.	Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
Cement and sand, see Excavator above.	Do. 1½-in., 6s. per yd. sup.
Lime, grey stone, 67s. per ton.	Do. 2-in., 7s. 4d. per yd. sup.
Mixed lime mortar, 29s. per yd.	Fixing only damp course, ex rolls, 3d. per ft. sup.
Damp course, in rolls of 4½ in. 4s. 3d., 9 in. 7s. 6d., 14 in. 11s., 18 in. 15s. 6d. per roll.	Asphalte, damp course, ½in., 1s. 8d. per ft. sup.
	Do. vertical, 2s. 3d. per ft. sup.
	Slate damp course, 2s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 13s. 3d. per yd.
	Do. skirting, 6-in., 1s. 10d. per yd.
MASON (INCLUDING SLATE).	
Mason, 2s. 4d. per hour.	Hoisting and setting stone, 2s. 4d. per ft. cube.
Do. fixer, 2s. 5d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 2s. 1d. per hour.	Plain face Portland, basis, 2s. 10d. per ft. sup.
Scaffolder, 2s. 2d. per hour.	Do. circular, 3s. 9d. per ft. sup.
	Sunk face, 4s. 2d. per ft. sup.
Portland stone:	Do. circular, 4s. 5d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. 8d. per ft. sup.
Bath stone, 3s. 1d. per ft. cube.	Do. do. circular, 3s. 6d. per ft. sup.
Mansfield red, 7s. 6d.	Circular-circular work, 17s. 6d. per ft. sup.
(Usual trade extras for large blocks.)	Plain moulding, straight, per inch of girth, 11d. per ft. run.
	Do. circular, 1s. 2d per ft. run.
	Half sawing, 1s. 2d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 9d. per ft. sup.
	Rubbed round nosing to do., 9d. per ft. lin.
	York Steps, rubbed T. & R., 41s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 3d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s. per square.
Tiler, 2s. 3d. per hour.	Westmoreland, in diminishing courses, 165s. per square.
Scaffolder, 2s. 2d. per hour.	Delabole do., 130s. per square.
Labourer, 2s. 1d. per hour.	Add, if vertical, 9s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
	Double course at eaves, 1s. 1d. per ft. approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 117s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 105s. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 55s. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton. Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 4d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 14s. 3d. per ft. cube.
Joiner, 2s. 4d. per hour.	Do. framed in floors, roofs, etc., 15s. per ft. cube.
Labourer, 2s. 1d. per hour.	Do. framed in trusses, etc., including ironwork, 15s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 20s. 6d. per sq.
Archangel (equal to)	Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 104s. per sq
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 32s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 115s. per sq.
Do. F.E., 3rd and U/S. £58.	1¼-in. molded casements in 4 sqs., glazing beads and hung, 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 11d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 9d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. 6d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in. 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 5s. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. do. 1½-in., 4s. 3d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 13s. 3d., 1-in. 16s., 1¼-in. 18s. per yd. sup., average.
	Staircase work, deal:
	1-in riser, 1¼-in. tread, fixed, 5s. 8d. per ft. sup.
	2-in. deal strings, fixed, 5s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 4½d. per hour.	Milled lead and labour in gutters, flashings, etc., 85s.
Mate or labourer, 2s. 1d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 4d. per ft.
	Do. ¾-in., 3s. per ft.
Lead, milled sheet, 54s. 6d. per cwt.	Do. 1-in., 3s. 6d. per ft.
Do. Drawn pipes, 55s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. soil pipe, 59s. 6d. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Do. scrap, 28s. per cwt.	Do. 3-in., 11s. 4d. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 16s. per ft.
Solder, plumbers, 1s. 9d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in. 2s. 4d. per ft.
Do. fine, 2s. 3d. per lb.	Do. 3-in., 2s. 8d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. 6d. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 2d. per ft.
L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 4d. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 6d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Do. 3-in., 4s. 9d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 55s. each.
	Baths only, with all joints, 46s. 6d.
	Lavatory basins only, with all joints on brackets, 37s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 1d., 26 ob. 1s. 2d.
Glass:	Glazing in beads, 21 oz. 1s., 26 oz. 1s. 1d. per ft. per ft.
Clear, 21 oz 8d., 26 oz. 9d.	Patent glazing in rough plate, normal span, 2s. 4d. to 2s. 8d. per ft.
Cathedral, ordinary, 6½d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Pold. Plate, ¼ in., 5s. per ft.	
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ¼ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 2s. 1d. per hour.	Metal lathing, 3s. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 9d. per yd.
Chalk lime, 65s. 6d. per ton	Do. vertical, 4s. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 6d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 5s. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 5s. 3d. per yd.
Hair mortar, 43s. per yd.	Render and set in Sirapite, 4s. 4d. per yd.
Fine stuff, 44s. 6d. per yd.	Do. in Thistle plaster, 4s. 2d. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including, lathing, any of foregoing, 9d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 7d. per yd.
Sirapite, 70s. per ton.	Angles, rounded, Keenes on Keenes, 10d. per ft. lin.
Do. Fine, 71s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 40s. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 2s. 3d. per hour.	Lime whiting 2 coats, 7½d. per yd. sup.
Labourer, 2s. 1d. per hour.	Wash, stop, and 2 coats whiten, 1s. 1d. per yd. sup.
French polisher, 2s. 4d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Paperhanger, 2s. 3d. per hour.	Knot, stop, and prime, 10d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 7d. per yd cup.
Genuine white lead, 105s. per cwt.	Do. subsequent coats, 1s. 5d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Do. enamel coat, 2s. 9d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Brush grain and 2 coats varnish, 5s. 6d. per yd. sup.
Turpentine, 15s. 6d. per gal.	Figured do. do. 9s. 6d. per yd. sup.
Liquid driers, 22s. per gall	French polishing, 2s. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 6d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Do. fine, 3s. 3d. and upwards per piece.
Double size, 7s. per firkin.	Varnishing paper, 1 coat, 17s. per piece.
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Hard stopping 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 9d. per yd. sup.
Varnish, hard oak, 20s. per gall.	Do. each subsequent coat, 1s. 6d. per yd. sup.
Do. Outside do., 20s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £59 10s. per ton.
Mate, no fixed rate.	Do. in small sections as reinforment, £44 per ton.
Erector, 2s. 2d. per hour.	Do. in compounds, £52 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £46 per ton.
Labourer, 2s. 1d. per hour.	Wrot iron in chimney bars, etc., including building in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including washers and driving screws, 2s. 2d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 8d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. per yd sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 9s. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 6s. 3d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 7d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square, grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 8d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 3d. per ft.

These lists are strictly copyright.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended May 29 numbered seventy-six. The total number of schemes submitted by local authorities and public utility societies is now 10,198, comprising about 70,000 acres. The schemes approved now number 6,432 and comprise about 49,000 acres.

Seventy-three lay-out schemes were submitted, and seventy-two approved during the week, bringing the total number of lay-outs submitted to 4,480 and the number approved to 3,934.

House plans, representing 3,077 houses, were submitted during the week, and plans for 2,143 houses approved. The total number of houses represented in all the plans now submitted is 201,452, and in the plans approved 187,569.

During the week tenders were submitted for 1,984 houses. Tenders for 3,107 were approved, bringing the total number of houses in tenders submitted to 122,351, and in tenders approved to 107,456.

Building by direct labour has been approved by the Ministry in a number of cases. Thirty-seven local authorities and public utility societies have received sanction to proceed in this way on fifty-one schemes. The largest of the sanctioned schemes are those of Birmingham Corporation (500 houses), Guildford Public Utility Society (500 houses), Swanpool Public Utility Society (258 houses), Hull Corporation (250 houses), Tonbridge Urban District Council (226 houses), and Itchen Urban District Council (176 houses). Three local authorities in the Metropolitan Police District, viz., the Acton, Southgate, and Walthamstow Urban District Councils, propose to build houses by direct labour.

Our Small Advertisements

Many items of interest for architects, builders, and others are contained in this week's small advertisements, which appear on page xxvi. A War Memorial is to be erected at Goole, and architects and sculptors are invited to submit designs. Quantity surveyors, architects' assistants, clerks of works, and others are required in various parts of the country. Tenders are invited by H.M. Office of Works for the new Ministry of Labour Claims and Records Office at Kew, and by the Runcorn R.D.C. for a housing scheme at Frodsham. 100 plots of freehold land at Neasden, suitable for the erection of small houses, are advertised for sale.

Labour Housing Bill

The text of the Housing Bill introduced into the House of Commons by Mr. Tyson Wilson, has been issued. Its general object is to provide one statute with respect to the housing of the working classes in England and Wales. The Bill proposes, among other things, to subject the administration of local authorities to stricter supervision and control, and to strengthen the hands of the medical officers of health; to extend the cases in which there are to be implied conditions as to the reasonable fitness of premises for habitation in all respects; to raise the general standard of housing by requiring that all new houses shall come up to a certain standard, and that the standard and condition of existing houses shall be taken into consideration by local authorities in connection with periodical housing schemes; to enable regulations to be made by the Minister of Health with respect to the sleeping (and other) accommodation to be supplied for domestic servants and shop assistants; to provide for the proper accommodation of workmen away from their homes. All these essentials should be normally provided for in any housing Act; but stricter supervision and control of administration are undoubtedly necessary.

Current Prices of Materials

NDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of e and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

BOUR RATES AND ATERIAL PRICES.	MEASURED WORK PRICES.
AVATOR AND CONCRETOR	
vator, 2s. 1d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 2d. per yd. cube.
urer, 2s. 1d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
y, 2s. 1d. per hour.	In stiff clay, add 50 per cent.
erman, 2s. 2d. per r.	In underpinning, add 120 per cent.
older, 2s. 2d. per hour.	In rock, including blasting, add 225 per cent.
hman, 7s. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
en brick or stone, , 7s. per yd.	Return, fill, and ram, ordinary earth, 4s. per yd.
es ballast 19s. per yd	Spread and level, including wheeling, 4s. 1d. per yd.
ravel, 20s. per yd.	Planking, 8d. per ft. sup.
and, 22s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
ed sand, 23s. 6d. per	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 4s. 6d. per yd. sup.
ned ballast or gravel, 10 per cent. per yd.	Do. 6 in. thick, 5s. 3d. per yd. sup.
er, breeze, etc., prices ording to locality.	Puddling, 41s. per yd. cube.
and cement, 80s. per	Cement concrete, 4.2.1, 66s. per yd. cube.
	Do. 6.2.1, 63s. per yd. cube.
in small lots, ex don stock, 100s. per	Do. in upper floors, add 12½ per cent.
	Do. in ferro concrete work, add 20 per cent.
ime, 70s. per ton.	Do. in underpinning, add 50 per cent.
charged extra at 6d. each and credited n returned at 2s.	Lias lime concrete, 55s. per yd. cube.
port hire per day:	Breeze Concrete, 40s. per yd. cube.
and horse, 30s.	Do. in lintols, etc., 5s. 9d. per ft cube.
n motor lorry, £6 15s	
m lorry, 5-ton, £6.	
iler, 32s. 6d.	
m roller, £4 10s.	
er cart, 32s.	
NER.	
rer, 2s. 1d. per hour.	
erman, 2s. 2d. per r.	Stoneware drains, jointed in cement, tested pipes, 4-in. 4s., 6-in. 5s. 9d., 9-in. 7s. per ft.
ayer, 2s 4d. per r.	Cast-iron drains, jointed in lead, 4-in 12s., 6-in. 21s., 9-in. 30s. per ft.
er, 2s. 4½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
man, 7s. per shift.	
ware pipes, tested ity, 4-in. 3s., 6-in. 9d., 9-in. 7s. 11d. per	
iron pipes, coated, lengths, 4-in. 4s., 5s. 9d., 9-in. 8s. 6d. yd.	
nd cement and sand, Excavator above.	
for caulking, 55s. cwt.	
t, 1s. 9d. per lb.	
KLAYER.	
ayer, 2s. 4d. per r.	Brickwork in stone lime mortar, Flettons or equal, £55 per rod.
rer, 2s. 1d. per hour.	Do. in cement do. £60 per rod.
lder, 2s. 2d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
n stocks, 88s. per M.	Do. circular on plan, add 12½ per cent. per rod.
ns, 81s. 6d. per M.	Facings, fair 4d. per ft. sup. extra.
rdshire blue, 225s. M.	Do. picked Flettons, 6d. per ft. sup. extra.
icks, 2½in., 230s. per	Do. picked stocks, 8d. per ft. sup. extra.
l, salt, white, and y stretchers, £25 M.	Do. salt, white, or ivory glazed, in areas, 6s. 4d. per ft. sup. extra.
headers, £24 10s. M.	Struck pointing, 6d. per ft. sup. extra.
s, extra, 130s. per M.	Tuck pointing, 1s. 3d. per ft. sup. extra.
s, less, £1 per M.	Weather pointing, 6d. per ft. sup. extra.
t and sand, see Ex- tor above.	Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
grey stone, 67s. per	Do. 1½-in., 6s. per yd. sup.
	Do. 2-in., 7s. 4d. per yd. sup.
lime mortar, 29s. yd.	Fixing only damp course, ex rolls, 3d. per ft. sup.
course, in rolls of . 4s. 3d., 9 in. 7s. 6d., . 11s., 18 in. 15s. 6d. roll.	Asphalte, damp course, ½in., 1s. 8d. per ft. sup.
	Do. vertical, 2s. 3d. per ft. sup.
	Slate damp course, 2s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 13s. 3d. per yd.
	Do. skirting, 6-in., 1s. 10d. per yd.
N (INCLUDING SLATE).	
, 2s. 4d. per hour.	Hoisting and setting stone, 2s. 4d. per ft. cube.
xer, 2s. 5d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
rer, 2s. 1d. per hour.	Plain face Portland, basis, 2s. 10d. per ft. sup.
der, 2s. 2d. per hour.	Do. circular, 3s. 9d. per ft. sup.
	Sunk face, 4s. 2d. per ft. sup.
nd stone:	Do. circular, 4s. 5d. per ft. sup.
bed, 4s. 5d. per ft. be.	Joints, arch, 2s. 8d. per ft. sup.
bed, 4s. 8d. per ft. be.	Do. sunk, 2s. 8d. per ft. sup.
stone, 3s. 1d. per ft. be.	Do. do. circular, 3s. 6d. per ft. sup.
eld red, 7s. 6d.	Circular-circular work, 17s. 6d. per ft. sup.
trade extras for blocks.)	Plain moulding, straight, per inch of girth, 11d. per ft. run.
	Do. circular, 1s. 2d per ft. run.
	Half sawing, 1s. 2d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 9d. per ft. sup.
	Rubbed round nosing to do., 9d. per ft. lin.
	York Steps, rubbed T. & R., 41s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 3d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s. per square.
Tiler, 2s. 3d. per hour.	Westmoreland, in diminishing courses, 165s. per square.
Scaffolder, 2s. 2d. per hour.	Delabole do., 130s. per square.
Labourer, 2s. 1d. per hour.	Add, if vertical, 9s. 6d. per square approx.
N.B.—Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. 1d. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 117s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 105s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 4d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 14s. 3d. per ft. cube.
Joiner, 2s. 4d. per hour.	Do. framed in floors, roofs, etc., 15s. per ft. cube.
Labourer, 2s. 1d. per hour.	Do. framed in trusses, etc., including ironwork, 15s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 20s. 6d. per sq.
Archangel (equal to)	Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 104s. per sq
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 32s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 115s. per sq.
Do. F.E., 3rd and U/S. £58.	1½-in. molded casements in 4 sqs., glazing beads and hung, 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 11d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 9d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. 6d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in. 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 5s. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. do. 1½-in., 4s. 3d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 13s. 3d., 1-in. 16s., 1¼-in. 18s. per yd. sup., average.
	Staircase work, deal:
	1-in riser, 1¼-in. tread, fixed, 5s. 8d. per ft. sup
	2-in. deal strings, fixed, 5s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 4½d. per hour.	Milled lead and labour in gutters, flashings, etc., 85s.
Mate or labourer, 2s. 1d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 4d. per ft.
Lead, milled sheet, 54s. 6d. per cwt.	Do. ¾-in., 3s. per ft.
Do. Drawn pipes, 55s. per cwt.	Do. 1-in., 3s. 6d. per ft.
Do. soil pipe, 59s. 6d. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. scrap, 28s. per cwt.	Lead waste or soil, fixed as above, complete, 2¼-in., 11s. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 3-in., 11s. 4d. per ft.
Solder, plumbers, 1s. 9d. per lb.	Do. 4-in., 16s. per ft.
Do. fine, 2s. 3d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in. 2s. 4d. per ft.
Red and white lead, 10d. per lb.	Do. 3-in., 2s. 8d. per ft.
Cast-iron pipes, etc.:	Do. 4-in., 3s. 6d. per ft.
L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 2d. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Do. O.G., 4-in., 2s. 4d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 6d. per ft.
	Do. 3-in., 4s. 9d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 55s. each.
	Baths only, with all joints, 46s. 6d.
	Lavatory basins only, with all joints on brackets, 37s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 1d., 26 ob. 1s. 2d.
Glass:	Glazing in beads, 21 oz. 1s., 26 oz. 1s. 1d. per ft. per ft.
Clear, 21 oz 8d., 26 oz. 9d.	Patent glazing in rough plate, normal span, 2s. 4d. to 2s. 8d. per ft.
Cathedral, ordinary, 6½d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Pold. Plate, ¼ in., 5s. per ft.	
Rough plate, ⅛ in. 5½d., 3-16 in. 5¾d., ¼ in. 6½d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 2s. 1d. per hour.	Metal lathing, 3s. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 9d. per yd.
Chalk lime, 65s. 6d. per ton	Do. vertical, 4s. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 6d. per yd.
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 5s. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 5s. 3d. per yd.
Hair mortar, 43s. per yd.	Render and set in Sirapite, 4s. 4d. per yd.
Fine stuff, 44s. 6d. per yd.	Do. in Thistle plaster, 4s. 2d. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including, lathing, any of foregoing, 9d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 7d. per yd.
Sirapite, 70s. per ton.	Angles, rounded, Keenes on Keenes, 10d. per ft. lin.
Do. Fine, 71s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 40s. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 2s. 3d. per hour.	Lime whiting 2 coats, 7½d. per yd. sup.
Labourer, 2s. 1d. per hour.	Wash, stop, and 2 coats whiten, 1s. 1d. per yd. sup.
French polisher, 2s. 4d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Paperhanger, 2s. 3d. per hour.	Knot, stop, and prime, 10d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 7d. per yd cup.
	Do. subsequent coats, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	Do. enamel coat, 2s. 9d. per yd. sup.
Linseed oil, raw, 11s. per gall.	Brush grain and 2 coats varnish, 5s. 6d. per yd. sup.
Do. boiled, 11s. 6d. per gall.	Figured do. do. 9s. 6d. per yd. sup.
Turpentine, 15s. 6d. per gal.	French polishing, 2s. per ft. sup.
Liquid driers, 22s. per gall	Stripping old paper and preparing, 2s. 3d. per piece.
Knotting, 29s. per gall.	Hanging paper, ordinary, 2s. 6d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Do. fine, 3s. 3d. and upwards per piece.
Petrifying liquid, 4s. 3d. per gall.	Varnishing paper, 1 coat, 17s. per piece.
Double size, 7s. per firkin.	Canvas, strained and fixed, 2s. 9d. per yd. sup.
Pumice stone, 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 9d. per yd. sup.
Hard stopping 9d. per lb.	Do. each subsequent coat, 1s. 6d. per yd. sup.
Varnish, hard oak, 20s. per gall.	
Do. Outside do., 20s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £59 10s. per ton
Mate, no fixed rate.	Do. in small sections as reinforment, £44 per ton
Erector, 2s. 2d. per hour.	Do. in compounds, £52 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £46 per ton.
Labourer, 2s. 1d. per hour.	Wrot iron in chimney bars, etc., including building in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including washers and driving screws, 2s. 2d. per yd.
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. per grs.	
Washers, galvd., 2s. 6d. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including stud or grounds, 8d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. per yd sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 9s. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 6s. 3d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 7d. per ft. sup
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods: R.W. gutter, 4 in., per yd. 1s. 11d.	Gutter-fixed, 1s. 8d. per ft.
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 3d. per ft.

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The ECONOMIC EAVES

(Patented in Great Britain, France and Belgium) IS THE ONLY

PERFECT - EAVES - CONSTRUCTION

SUITED FOR

HOUSING AND TOWN PLANNING SCHEMES

AMONGST THE ADVANTAGES IT POSSESSES ARE:—

Cheaper Initial Cost.
No Dripping Eaves.
Perfect Alignment.
Abolition of Periodic Maintenance and Repair.
Speedy Removal of Water due to fall.
No Risk of Damage to same by snow sliding off roof.
Blockage in down pipes avoided, straight pipes from outlets being used instead of swannecks.
Increased stability and facility for ladder raising for roof repairs.
Bonds hollow walls together at Wall-head.
Its monolithic character adds to strength of structures by forming a continuous beam on which roof superstructure rests, thus counteracting damage to roof work by settlement of walls under.
Improved hygiene conditions by reduction of "air-lock" between window head and ceiling level.
Affords protection to walls and presents pleasing effect.

For full particulars apply—

THE ECONOMIC EAVES CO., 9, Southampton Street, Bloomsbury, W.C.1.

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
EXCAVATOR AND CONCRETOR	
Excavator, 2s. 1d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 2d. per yd. cube.
Labourer, 2s. 1d. per hour.	
Navvy, 2s. 1d. per hour.	
Timberman, 2s. 2d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
Scaffolder, 2s. 2d. per hour.	In stiff clay, add 50 per cent.
Watchman, 7s. per shift.	In underpinning, add 120 per cent.
	In rock, including blasting, add 225 per cent.
	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
Broken brick or stone, 2 in., 9s. 6d. per yd.	Return, fill, and ram, ordinary earth, 4s. per yd.
Thames ballast 19s. per yd	Spread and level, including wheeling, 4s. 1d. per yd.
Pit Gravel, 20s. per yd.	Planking, 8d. per ft. sup.
Pit sand, 22s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
Washed sand, 23s. 6d. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 4s. 6d. per yd. sup.
Screened ballast or gravel, add 10 per cent. per yd.	Do. 6 in. thick, 5s. 3d. per yd. sup.
Clinker, breeze, etc., prices according to locality.	Puddling, 41s. per yd. cube.
Portland cement, 80s. per ton.	Cement concrete, 4.2.1, 66s. per yd. cube.
Do. in small lots, ex London stock, 100s. per ton.	Do. 6.2.1, 63s. per yd. cube.
Lias lime, 70s. per ton.	Do. in upper floors, add 12½ per cent.
Sacks charged extra at 2s. 6d. each and credited when returned at 2s.	Do. in ferro concrete work, add 20 per cent.
Transport hire per day:	Do. in underpinning, add 50 per cent.
Cart and horse, 30s.	Lias lime concrete, 55s. per yd. cube.
3-ton motor lorry, £6 15s	Breeze Concrete, 40s. per yd. cube.
Steam lorry, 5-ton, £6.	Do. in lintols, etc., 5s. 9d. per ft cube.
Trailer, 32s. 6d.	
Steam roller, £4 10s.	
Water cart, 32s.	
DRAINER.	
Labourer, 2s. 1d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 4s., 6-in. 5s. 9d., 9-in. 7s. per ft.
Timberman, 2s. 2d. per hour.	Cast-iron drains, jointed in lead, 4-in 12s., 6-in. 21s., 9-in. 30s. per ft.
Bricklayer, 2s 4d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
Plumber, 2s. 4½d. per hour.	
Watchman, 7s. per shift.	
Stoneware pipes, tested quality, 4-in. 3s., 6-in. 4s. 9d., 9-in. 7s. 11d. per yd.	
Cast iron pipes, coated, 9-ft. lengths, 4-in. 4s., 6-in. 5s. 9d., 9-in. 8s. 6d. per yd.	
Portland cement and sand, see Excavator above.	
Lead for caulking, 55s. per cwt.	
Basket, 1s. 8d. per lb.	
BRICKLAYER.	
Bricklayer, 2s. 4d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £55 per rod.
Labourer, 2s. 1d. per hour.	Do. in cement do. £60 per rod.
Scaffolder, 2s. 2d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
	Do. circular on plan, add 12½ per cent. per rod.
London stocks, 88s. per M.	Facings, fair 4d. per ft. sup. extra.
Flettons, 81s. 6d. per M.	Do. picked Flettons, 6d. per ft. sup. extra.
Staffordshire blue, 225s. per M.	Do. picked stocks, 8d. per ft. sup. extra.
Firebricks, 2½in., 230s. per M.	Do. salt, white, or ivory glazed, in areas, 6s. 4d. per ft. sup. extra.
Glazed, salt, white, and ivory stretchers, £25 per M.	Tuck pointing, 1s. 3d. per ft. sup. extra.
Do. headers, £24 10s. per M.	Weather pointing, 8d. per ft. sup. extra.
Golours, extra, 130s. per M.	Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
Seconds, less, £1 per M.	Do. 1½-in., 6s. per yd. sup.
Cement and sand, see Excavator above.	Do. 2-in., 7s. 4d. per yd. sup.
Lime, grey stone, 67s. per ton.	Fixing only damp course, ex rolls, 3d. per ft. sup.
Fixed lime mortar, 29s. per yd.	Asphalte, damp course, ½in., 1s. 8d. per ft. sup.
Damp course, in rolls of 4½ in. 4s. 3d., 9 in. 7s. 6d., 14 in. 11s., 18 in. 15s. 6d. per roll.	Do. vertical, 2s. 3d. per ft. sup.
	Slate damp course, 2s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 13s. 3d. per yd.
	Do. skirting, 6-in., 1s. 10d. per yd.
MASON (INCLUDING SLATE).	
Mason, 2s. 4d. per hour.	Hoisting and setting stone, 2s. 4d. per ft. cube.
Do. fixer, 2s. 5d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
Labourer, 2s. 1d. per hour.	Plain face Portland, basis, 2s. 10d. per ft. sup.
Scaffolder, 2s. 2d. per hour.	Do. circular, 3s. 9d. per ft. sup.
	Sunk face, 4s. 2d. per ft. sup.
Portland stone:	Do. circular, 4s. 5d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. 8d. per ft. sup.
Bath stone, 3s. 1d. per ft. cube.	Do. do. circular, 3s. 6d. per ft. sup.
Mansfield red, 7s. 6d.	Circular-circular work, 17s. 6d. per ft. sup.
(Usual trade extras for large blocks.)	Plain moulding, straight, per inch of girth, 11d. per ft. run.
	Do. circular, 1s. 2d per ft. run.
	Half sawing, 1s. 2d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 9d. per ft. sup.
	Rubbed round nosing to do., 9d. per ft. lin.
	York Steps, rubbed T. & R., 41s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 3d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s. per square.
Tiler, 2s. 3d. per hour.	
Scaffolder, 2s. 2d. per hour.	Westmoreland, in diminishing courses, 165s. per square.
Labourer, 2s. 1d. per hour.	Delabole do., 130s. per square.
N.B.—Tiling is often "Piecework."	Add, if vertical, 9s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. 1d. per ft. approx.
	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 117s. per square.
Clips, lead, 11d. per lb.	Do. machine-made do. 105s. per square.
Clips, copper, 2s. 4d. per lb.	Fixing lead soakers, 1s. per dozen.
Nails, compo, 55s. per cwt.	
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 4d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 14s. 3d. per ft. cube.
Joiner, 2s. 4d. per hour.	
Labourer, 2s. 1d. per hour.	Do. framed in floors, roofs, etc., 15s. per ft. cube.
	Do. framed in trusses, etc., including ironwork, 15s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 20s. 6d. per sq.
Archangel (equal to)	Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 104s. per sq
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 32s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 115s. per sq.
Do. F.E., 3rd and U/S. £58.	1¾-in. molded casements in 4 sqs., glazing beads and hung, 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 11d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 9d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. 6d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½in. 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in. 5s. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. do. 1½-in., 4s. 3d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 13s. 3d., 1-in. 16s., 1¼-in. 18s. per yd. sup., average.
	Staircase work, deal:
	1-in riser, 1¼-in. tread, fixed, 5s. 8d. per ft. sup
	2-in. deal strings, fixed, 5s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 4½d. per hour.	Milled lead and labour in gutters, flashings, etc., 85s.
Mate or labourer, 2s. 1d. per hour.	Lead pipe, fixed, including running joints, bends and tacks, ½-in., 2s. 6d. per ft.
	Do. ¾-in., 3s. per ft.
Lead, milled sheet, 54s. 6d. per cwt.	Do. 1-in., 3s. 6d. per ft.
Do. Drawn pipes, 55s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. soil pipe, 59s. 6d. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Do. scrap, 28s. per cwt.	Do. 3-in., 11s. 4d. per ft.
Copper, sheet, 2s. 3d. per lb.	Do. 4-in., 16s. per ft.
Solder, plumbers, 1s. 8d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 2d. per ft.
Do. fine, 2s. 3d. per lb.	Do. 3-in., 2s. 7d. per ft.
Red and white lead, 10d. per lb.	Do. 4-in., 3s. per ft.
Cast-iron pipes, etc.:	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 2d. per ft.
L.C.C. soil, 3-in. 7s. 6d., 4-in. 8s. 9d. per yd.	Do. O.G., 4-in., 2s. 4d. per ft.
R.W.P., 2½-in. 3s. 6d., 3-in. 4s., 4-in. 4s. 6d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 6d. per ft.
Gutter, 4-in. H.R. 2s. 9d., 4-in. O.G. 3s. per yd.	Do. 3-in., 4s. 9d. per ft.
	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 55s. each.
	Baths only, with all joints, 46s. 6d.
	Lavatory basins only, with all joints on brackets, 37s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 1d., 26 ob. 1s. 2d.
Glass:	Glazing in beads, 21 oz. 1s., 26 oz. 1s. 1d. per ft per ft.
Clear, 21 oz 8d., 26 oz. 9d	Patent glazing in rough plate, normal span, 2s. 4d. to 2s. 8d. per ft.
Cathedral, ordinary, 6½d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Pold. Plate, ¼ in., 5s. per ft.	
Rough plate, ¼ in. 5½d., 3-16 in. 5¾d., ⅛ in. 6¼d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 2s. 1d. per hour.	Metal lathing, 3s. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 9d. per yd.
Chalk lime, 65s. 6d. per ton	Do. vertical, 4s. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 6d. per yd
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 5s. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 5s. 3d. per yd.
Hair mortar, 43s. per yd.	Render and set in Sirapite, 4s. 4d. per yd.
Fine stuff, 44s. 6d. per yd.	Do. in Thistle plaster, 4s. 2d. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including, lathing, any of foregoing, 9d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 7d. per yd.
Sirapite, 70s. per ton.	Angles, rounded, Keenes on Keenes, 10d. per ft. lin.
Do. Fine, 71s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Plaster, 83s. per ton.	White glazed tiling set in Portland and jointed in Parian, 40s. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 2s. 3d. per hour.	Lime whiting 2 coats, 7½d. per yd. sup.
Labourer, 2s. 1d. per hour.	Wash, stop, and 2 coats whiten, 1s. 1d. per yd. sup.
French polisher, 2s. 4d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Paperhanger, 2s. 3d. per hour.	Knot, stop, and prime, 10d. per yd. sup.
	Plain painting, including mouldings, and on plaster or joinery, 1st coat, 1s. 7d. per yd cup.
	Do. subsequent coats, 1s. 5d. per yd. sup.
Genuine white lead, 105s. per cwt.	Do. enamel coat, 2s. 9d. per yd. sup.
Linseed oil, raw, 9s. per gall.	Brush grain and 2 coats varnish, 5s. 6d. per yd. sup.
Do. boiled, 9s. 6d. per gall.	Figured do. do. 9s. 6d. per yd. sup.
	French polishing, 2s. per ft. sup.
Turpentine, 15s. per gall.	Stripping old paper and preparing, 2s. 3d. per piece.
Liquid driers, 22s. per gall	Hanging paper, ordinary, 2s. 6d. per piece.
Knotting, 29s. per gall.	Do. fine, 6s. 3d. and upwards per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Varnishing paper, 1 coat, 17s. per piece
	Canvas, strained and fixed, 3s. per yd. sup.
Petrifying liquid, 4s. 3d. per gall.	Varnishing, hard oak, 1st coat, 1s. 9d. per yd. sup.
Double size, 7s. per firkin.	Do. each subsequent coat, 1s. 6d. per yd. sup.
Pumice stone, 9d. per lb.	
Hard stopping 9d. per lb.	
Varnish, hard oak, 20s. per gall.	
Do. Outside do., 20s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £59 10s. per ton.
Mate, no fixed rate.	Do. in small sections as reinforment, £44 per ton.
Erector, 2s. 2d. per hour.	Do. in compounds, £52 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £46 per ton.
Labourer, 2s. 1d. per hour.	Wrot iron in chimney bars, etc., including building in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per cwt.
	Fixing only corrugated sheeting, including washers and driving screws, 2s. 2d. per yd.
Sheet steel:	
Flat sheets, black, £49 per ton.	
Do. Galvd., £59 per ton.	
Corrugated sheets, black*	
Do. Galvd., £57 per ton.	
Driving screws, galvd., 6s. 3d. per grs.	
Washers, galvd., 3s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 8d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. per yd sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 9s. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 6s. 3d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 7d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square, grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	Gutter-fixed, 1s. 8d. per ft.
R.W. gutter, 4 in., per yd. 1s. 11d.	
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 3d. per ft.

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"The Story of Oil"

A very interesting day was spent last week by a large party of Press representatives who, on the invitation of the Anglo-American Oil Co., first visited the company's works at Battersea, and afterwards proceeded to the Crystal Palace, where lunch was served, and an opportunity afforded of inspecting the Oil section of the Imperial War Museum and Great Victory Exhibition.

On arriving at the Battersea works the guests were shown the various types of self-measuring pumps used in connection with the company's system of bulk storage of petrol. These were described in detail by Captain Alban-Uff, and demonstrations of their action were given. This system of storage and distribution was dealt with in an illustrated article which was published in our issue of May 26, so that our readers will be conversant with the principle by which it is aimed to abolish the archaic method of can storage, with its resultant waste and delay, and substitute for it an underground storage system in conjunction with accurately discharging curb pumps. The demonstrator, whose technical remarks were followed with the closest attention, mentioned that the company's new enterprise is attracting a great deal of interest among petrol users all over the country, and that tanks and pump equipment are being installed in daily increasing numbers. In reply to a question as to whether the pumps could be hired out, Captain Alban-Uff explained that this was not the policy of the company.

In addition to the bulk storage equipment for petrol the visitors were shown a newly-introduced pump for accurately measuring and discharging lubricating oil. This economical apparatus should prove a boon to motorists, who under existing conditions experience heavy loss through the wasteful method of distribution at present in vogue.

The party then drove to the Crystal Palace and arrived shortly before one o'clock, at which hour lunch was served in the King's Room, Mr. A. G. Worcester—in the absence of Colonel C. E. Dudley—occupying the chair. After the health of the King had been proposed by the chairman, Mr. H. E. E. Greville, in felicitous terms, proposed the health of the Press, which was seconded by Mr. H. J. Buckland, general manager of the Crystal Palace, and responded to by Mr. Armstrong, of the Temple Press.

At the conclusion of these amenities, the whole company visited the company's cinema theatre, erected on their stand at the exhibition, and there witnessed their film, "The Story of Oil." This proved of considerable interest, and showed every stage through which this commodity passes from the moment of its location by the drill to its delivery to the user.

Publications Received

Report of the Joint Committee of the Quantity Surveyors' Association, the Concrete Institute, etc., on A Standard Method of Measurement for Reinforced Concrete in Building Construction. Published by the Concrete Institute, 1s. 1d. post free.

Report of the Ontario Housing Committee. Published by A. T. Wilgress, Toronto.

The Panelled Rooms. V.—The Hatton Garden Room. Published by the Victoria and Albert Museum Department of Woodwork. Price 1s. 6d.

Types of Houses Designed by the Ministry of Health. Published by His Majesty's Stationery Office. Price 1s. net.

"Moslem Architecture," by G. T. Rivoira. Oxford, Humphrey Milford. Price 42s. net.

A Guide to the Identification of our More Useful Timber. By Hubert Stone. Lectures in Forestry (wood). Cambridge University Press., 7s. 6d.

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Imperial	30½" x 22½"	72 lbs	480's	11d.	" " "
Royal	24" x 19"	44 lbs.	480's	6½d.	" " "

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Electrical Notes

The Efficient Use of Electric Light.

One of the great conveniences of electric lighting is that the lamps can readily be placed in any position and fitted with reflectors of any material or form. The whole secret of efficient lighting depends upon choosing lamps of the right candle-power, placing them in the right position, and fitting them with the appropriate type of reflector. All these matters have been reduced to an exact science, so that one can order an electrical firm to provide good lighting much as one can order a certain quality of timber or stone.

For the lighting of buildings three systems of illumination with electric lamps are available, either singly or in combination—the "indirect," the "semi-indirect," and the "direct." In the first, which is sometimes called "concealed lighting," the lamp is completely hidden in an opaque bowl suspended from the ceiling and fitted with an internal reflector which throws all the light upon the ceiling, whence it is diffused in a soft glow. Where a ceiling is not available at a suitable height, "over-reflectors" take its place. "Semi-indirect" lighting is similar to "indirect" lighting, except that the containing bowl is translucent and not opaque, so that some of the light is transmitted directly downwards. In "direct" lighting the reflector (either of glass or of metal) surmounts the lamp like an umbrella and diffuses the light downwards and outwards. Different reflectors give different degrees of concentration of light according to the needs of each case. Each of these methods, in its appropriate sphere, leads to the highest economy and efficiency in electric lighting.

In order to indicate how electric light adapts itself to the solution of illumination problems we may take two familiar cases—a public hall and an engineering factory. It is, of course, impossible to do more than deal with each case in broad outline as no two cases are exactly alike.

A large public hall with a high roof needs to be illuminated so that every occupant can read a programme with ease and also see the speaker or performer clearly and without eye-strain. These conditions can be met by arranging gas-filled lamps close to the roof (so as to be well above the line of sight even of people in galleries) at intervals so that a uniform flood of light falls over the entire floor-area. This general illumination must be supplemented by what we may call local-general lighting under galleries, unless these are narrow. This supplementary lighting can be secured by "indirect" fittings, which give a soft diffused glow which does not interfere with the eye-comfort of people sitting under the gallery. If, as often happens in smaller halls, the ceiling is low, general lighting on the pure "indirect" system throughout gives excellent results, as no bright centres of light intervene between the speaker and his audience. All these methods have the great advantage, from the architect's point of view, that they do not mask any of the decorative features. The half-watt lamp, moreover, gives a very clear white light, which has the least possible effect on colour values.

For machine shops, where stamping, assembling, woodworking, and similar processes are carried out, a high degree of general illumination is required, and can be secured by half-watt units placed high up and spaced so that every portion of the machinery and the floor area is uniformly lighted and free from heavy shadows. Local lighting from "direct" fittings is best over lathes, drills, and similar machines, the lamps being shrouded in metal reflectors which shield the eyes of the workers and concentrate the light where it is most wanted. Small lamps in metal reflectors can be placed close to scales, cutting tools, and other parts where close observation is necessary. Portable hand lamps in shock-proof fittings can also be supplied for the inspection of the machinery. For drawing offices general illumination on the "indirect" system gives excellent results for ordinary work, and it can be reinforced by local direct lighting for very fine work and tracing.

In conclusion, it may be noted that the degrees of illumination required for different buildings—halls, offices, shops, and different factories—have been ascertained by illuminating engineers. Information on this subject is freely supplied by the makers of electric lamps and reflectors, who have also founded illuminating engineering departments whose services are placed at the disposal of architects and builders in selecting and arranging the types of lamps and reflectors which will give efficient illumination in each particular case.

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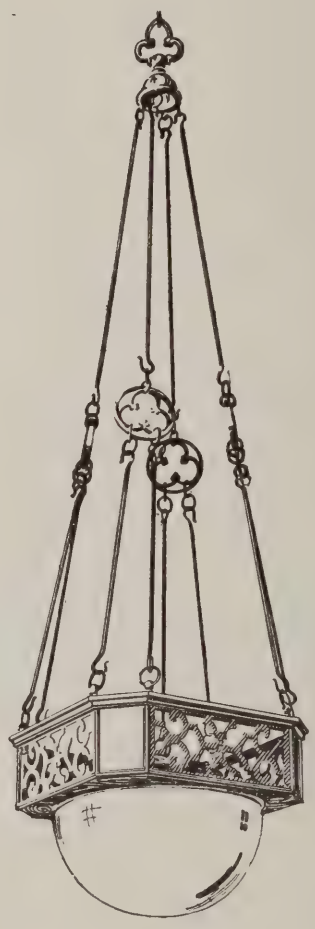

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Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only. The Labour Rates are those current at the time of sue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR	
xcavator, 2s. 1d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 2d. per rd. cube.
bourer, 2s. 1d. per hour.	
avvy, 2s. 1d. per hour.	
mberman, 2s. 2d. per hour.	Exceeding 6 ft., but under 12 ft., add 25 per cent.
	In stiff clay, add 50 per cent.
	In underpinning, add 120 per cent.
affolder, 2s. 2d. per hour.	In rock, including blasting, add 225 per cent.
atchman, 7s. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
oken brick or stone, 2 in., 9s. 6d. per yd.	Return, fill, and ram, ordinary earth, 4s. per yd.
ames ballast 21s. per yd.	Spread and level, including wheeling, 4s. 1d. per yd.
t Gravel, 24s. per yd.	Planking, 8d. per ft. sup.
t sand 24s. per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 35 per cent.
ashed sand, 26s. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 4s. 6d. per yd. sup.
reened ballast or gravel, dd 10 per cent. per yd.	Do. 6 in. thick, 5s. 3d. per yd. sup.
nker, breeze, etc., prices ccording to locality.	Puddling, 41s. per yd. cube.
rtland cement, 80s. per on.	Cement concrete, 4.2.1, 67s. per yd. cube.
. in small lots, ex London stock, 100s. per on.	Do. 6.2.1, 64s. per yd. cube.
	Do. in upper floors, add 12½ per cent.
	Do. in ferro concrete work, add 20 per cent.
	Do. in underpinning, add 50 per cent.
s lime, 70s. per ton.	Lias lime concrete, 55s. per yd. cube.
cks charged extra at s. 6d. each and credited hen returned at 2s.	Breeze Concrete, 40s. per yd. cube.
ansport hire per day: Cart and horse, 30s. 3-ton motor lorry, £6 15s Steam lorry, 5-ton, £6. Trailer, 32s. 6d. Steam roller, £4 10s. Water cart, 32s.	Do. in lintols, etc., 5s. 9d. per ft cube.
AINER.	
bourer, 2s. 1d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 4s., 6-in. 5s. 9d., 9-in. 7s. per ft.
mberman, 2s. 2d. per hour.	
icklayer, 2s 4d. per hour.	Cast-iron drains, jointed in lead, 4-in 12s., 6-in. 21s., 9-in. 30s. per ft.
umber, 2s. 4½d. per hour.	Note.—These prices include digging and filling for normal depths, and are average prices.
atchman, 7s. per shift.	
oneware pipes, tested quality, 4-in. 3s., 6-in. s. 9d., 9-in. 7s. 11d. per yd.	
st iron pipes, coated, -ft. lengths, 4-in. 4s., -in. 5s. 9d., 9-in. 8s. 6d. per yd.	
rtland cement and sand, ee Excavator above.	
ad for caulking, 55s. per cwt.	
asket, 1s. 8d. per lb.	
ICKLAYER.	
icklayer, 2s. 4d. per hour.	Brickwork in stone lime mortar, Flettons or equal, £55 per rod.
bourer, 2s. 1d. per hour.	Do. in cement do. £60 per rod.
affolder, 2s. 2d. per hour.	Do. in stocks, add 20 per cent. per rod.
	Do. in blues, add 320 per cent. per rod.
	Do. circular on plan, add 12½ per cent. per rod.
ndon stocks, 94s. per M.	Facings, fair 4d. per ft. sup. extra.
ettons, 79s. per M.	Do. picked Flettons, 6d. per ft. sup. extra.
affordshire blue, 225s. per M.	Do. picked stocks, 8d. per ft. sup. extra.
rebricks, 2½in., 230s. per M.	Do. salt, white, or ivory glazed, in areas, 6s. 6d. per ft. sup. extra.
azed; salt, white, and vory stretchers, £28 per M.	Tuck pointing, 1s. 3d. per ft. sup. extra.
. headers, £28 per M.	Weather pointing, 8d. per ft. sup. extra
lours, extra, 110s. per M	Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
conds, less, £1 per M.	Do. 1½-in., 6s. per yd. sup.
ment and sand, see Excavator above.	Do. 2-in., 7s. 4d. per yd. sup.
	Fixing only damp course, ex rolls, 3d. per ft. sup.
	Asphalte, damp course, ½in., 1s. 8d. per ft. sup.
	Do. vertical, 2s. 3d. per ft. sup.
ne, grey stone, 71s. per on.	Slate damp course, 2s. 3d. per ft. sup.
xed lime mortar, 29s. per yd.	Asphalte paving in two thicknesses, ¾-in., 13s. 3d. per yd.
	Do. skirting, 6-in., 1s. 10d. per yd.
mp course, in rolls of ½ in. 4s. 3d., 9 in. 7s. 6d., 14 in. 11s., 18 in. 15s. 6d. per roll.	
ASON (INCLUDING SLATE).	
ason, 2s. 4d. per hour.	Hoisting and setting stone, 2s. 4d. per ft. cube.
. fixer, 2s. 5d. per hour.	Do. for every 10 ft. above 30 ft., add 10 per cent.
bourer, 2s. 1d. per hour.	Plain face Portland, basis, 2s. 10d. per ft. sup.
affolder, 2s. 2d. per hour.	Do. circular, 3s. 9d. per ft. sup.
	Sunk face, 4s. 2d. per ft. sup.
rtland stone:	Do. circular, 4s. 5d. per ft. sup.
Whitbed, 4s. 5d. per ft. cube.	Joints, arch, 2s. 8d. per ft. sup.
Basebed, 4s. 8d. per ft. cube.	Do. sunk, 2s. 8d. per ft. sup.
th stone, 3s. 1d. per ft. cube.	Do. do. circular, 3s. 6d. per ft. sup.
nsfield red, 7s. 6d.	Circular-circular work, 17s. 6d. per ft. sup.
sual trade extras for arge blocks.)	Plain moulding, straight, per inch of girth, 11d. per ft. run.
	Do. circular, 1s. 2d per ft. run.
	Half sawing, 1s. 2d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued).	
York paving, av. 2½ in. 3s. 6d. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 9d. per ft. sup.
	Rubbed round nosing to do., 9d. per ft. lin.
	York Steps, rubbed T. & R., 41s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 3d. per hour.	Slating, 2½-in. lap, compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s. per square.
Tiler, 2s. 3d. per hour.	
Scaffolder, 2s. 2d. per hour.	Westmoreland, in diminishing courses, 165s. per square.
Labourer, 2s. 1d. per hour.	Delabole do., 130s. per square.
N.B.—Tiling is often "Piecework."	Add, if vertical, 9s. 6d. per square approx.
	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. 1d. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 117s. per square.
Clips, copper, 2s. 4d. per lb.	Do. machine-made do. 105s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 6d. per lb.	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 155s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 4d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 14s. 3d. per ft. cube.
Joiner, 2s. 4d. per hour.	
Labourer, 2s. 1d. per hour.	Do. framed in floors, roofs, etc., 15s. per ft. cube.
	Do. framed in trusses, etc., including ironwork, 15s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33⅓ per cent.
	Fixing only boarding in floors, roofs, etc., 20s. 6d. per sq.
Archangel (equal to)	Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 104s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 32s. per sq.
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 115s. per sq.
Do. F.E., 3rd and U/S. £58.	1¼-in. molded casements in 4 sqs., glazing beads and hung, 4s. 3d. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 11d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 9d. per ft. sup.
Norwegian or Swedish: Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Doors, 4-pan. sq. b.s., 2-in. 4s. 6d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. do. 1½in. 3s. 9d. per ft. sup.
T. and G. and matching, U/S. 63s. per sq. of 1 in	Do. do. molded b.s., 2-in. 5s. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	Do. do. do. 1½-in., 4s. 3d. per ft. sup.
Mahogany, 4s. per ft. sup. of 1 in.	If in oak multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Teak, 4s. 6d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 13s. 3d., 1-in. 16s., 1¼-in. 18s. per yd. sup., average.
	Staircase work, deal: 1-in riser, 1½-in. tread, fixed, 5s. 8d. per ft. sup 2-in. deal strings, fixed, 5s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 4½d. per hour.	Milled lead and labour in gutters, flashings, etc., 85s.
Mate or labourer, 2s. 1d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in., 2s. 6d. per ft.
	Do. ¾-in., 3s. per ft.
	Do. 1-in., 3s. 6d. per ft.
Lead, milled sheet, 53s. per cwt.	Do. 1¼-in., 4s. 2d. per ft.
Do. Drawn pipes, 53s. 6d. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 11s. per ft.
Do. soil pipe, 56s. per cwt.	Do. 3-in., 11s. 4d. per ft.
Do. scrap, 25s. per cwt.	Do. 4-in., 16s. per ft.
Copper, sheet, 2s. 3d. per lb.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 2s. 2d. per ft.
Solder, plumbers, 1s. 8d. per lb.	Do. 3-in., 2s. 7d. per ft.
Do. fine, 2s. 3d. per lb.	Do. 4-in., 3s. per ft.
Red and white lead, 10d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 4d. per ft.
Cast-iron pipes, etc.: L.C.C. soil, 3 in. 9s. 3d., 4-in. 11s. 3d. per yd.	Do. O.G., 4-in., 2s. 6d. per ft.
R.W.P., 2½-in. 4s. 9d., 3-in. 5s. 9d., 4-in. 6s. 9d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 5s. 6d. per ft.
Gutter, 4-in. H.R. 3s. 6d., 4-in. O.G. 4s. 6d. per yd.	Do. 3-in., 4s. 9d. per ft.
	Fixing only: W.C. pans and all joints, P. or S., and including water waste preventers, 55s. each.
	Baths only, with all joints, 46s. 6d.
	Lavatory basins only, with all joints on brackets, 37s. 6d. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	Glazing, in putty, clear, 21 oz. 1s. 2d., 26 oz. 1s. 3d.
Glass:	Glazing in beads, 21 oz. 1s. 1d., 26 oz. 1s. 2d. per ft.
Clear, 21 oz. 8½d., 26 oz. 9½d.	Patent glazing in rough plate, normal span, 2s. 4d. to 2s. 8d. per ft.
Cathedral, ordinary, 6½d. per ft.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 4s. 9d. per ft. sup.
Pold. Plate, ¼ in., 5s. per ft.	
Rough plate, ⅛ in. 7d. 3-16 in. 7½d., ¼ in. 8d. per ft.	
Linseed oil putty, 34s. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	Lathing with sawn laths, 2s. 3d. per yd.
Labourer, 2s. 1d. per hour.	Metal lathing, 3s. per yd.
	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 9d. per yd.
Chalk lime, 65s. 6d. per ton	Do. vertical, 4s. per yd.
Hair, 35s. per cwt.	Render, on brickwork, 1 to 3, 4s. 6d. per yd
Sand and cement, see "Excavator," etc., above.	Render in Portland and set in fine stuff, 5s. per yd.
Lime putty, 5s. 3d. per cwt	Render, float, and set, trowelled, 5s. 3d. per yd.
Hair mortar, 43s. per yd.	Render and set in Sirapite, 4s. 4d. per yd.
Fine stuff, 44s. 6d. per yd.	Do. in Thistle plaster, 4s. 2d. per yd.
Sawn laths, 4s. per bdl.	Extra, if on but not including, lathing, any of foregoing, 9d. per yd.
Keene's cement, 90s. per ton.	Extra, if on ceilings, 7d. per yd.
Sirapite, 70s. per ton.	Angles, rounded, Keenes on Keenes, 10d. per ft. lin.
Do. Fine, 71s. 6d. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Plaster, 83s. per ton	White glazed tiling set in Portland and jointed in Parian, 40s. per yd.
Do. fine, 84s. per ton.	
Thistle plaster, 66s. per ton.	
Lath nails, 6d. per lb.	
DECORATOR.	
Painter, 2s. 3d. per hour.	Lime whiting 2 coats, 7½d. per yd. sup.
Labourer, 2s. 1d. per hour.	Wash, stop, and 2 coats whiten, 1s. 1d. per yd. sup.
French polisher, 2s. 4d. per hour.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Paperhanger, 2s. 3d. per hour.	Knot, stop, and prime, 10d. per yd. sup.
	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 7d. per yd cup.
Genuine white lead, 85s. 6d. per cwt.	Do. subsequent coats, 1s. 5d. per yd. sup.
Linseed oil, raw, 9s. per gall.	Do. enamel coat, 2s. 9d. per yd. sup.
Do. boiled, 9s. 6d. per gall.	Brush grain and 2 coats varnish, 5s. 6d. per yd. sup.
Turpentine, 15s. 6d. per gall.	Figured do. do. 9s. 6d. per yd. sup.
Liquid driers, 21s. per gall.	French polishing, 2s. per ft. sup.
Knotting, 29s. per gall.	Stripping old paper and preparing, 2s. 3d. per piece.
Distemper, washable in ordinary colours, 55s. per cwt.	Hanging paper, ordinary, 2s. 6d. per piece.
Petrifying liquid, 4s. 3d. per gall.	Do. fine, 3s. 3d. and upwards per piece.
Double size, 6s. per firkin.	Varnishing paper, 1 coat, 17s. per piece
Pumice stone, 9d. per lb.	Canvas, strained and fixed, 3s. per yd. sup.
Hard stopping 9d. per lb.	Varnishing, hard oak, 1st coat, 1s. 9d. per yd. sup.
Varnish, hard oak, 20s. per gall.	Do. each subsequent coat, 1s. 6d. per yd. sup.
Do. Outside do., 20s. 6d. per gall.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 28s. per gall	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £56 10s. per ton.
Mate, no fixed rate.	Do. in small sections as reinforcement, £44 per ton.
Erector, 2s. 2d. per hour.	Do. in compounds, £50 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £46 per ton.
Labourer, 2s. 1d. per hour.	Wrot iron in chimney bars, etc., including building in, 60s. per cwt.
Mild steel in British standard sections, £36 per ton.	Do. in light railings and balusters, 80s. per cwt.
Sheet steel:	Fixing only corrugated sheeting, including washers and driving screws, 2s. 2d. per yd.
Flat sheets, black, £50 per ton.	
Do. Galvd., £60 10s. per ton.	
Corrugated sheets, black*	
Do. Galvd., £60 per ton.	
Driving screws, galvd., 6s. 3d. per grs.	
Washers, galvd., 3s. per grs.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 8d. per ft. sup.
Asbestos sheeting, 5-32 in., grey flat, 3s. 7d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. per yd sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestic Composition Flooring:	Laid in two coats, average ¾-in. thick, in plain colours, 9s. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 3d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 6s 3d. each.
Do. in metal frames, 4s. 3d. per ft. sup.	Building in metal casement frames, 7d. per ft. sup.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £25, red £27.	Asbestos slating or tiling on, but not including battens or boards, plain "diamond" per square, grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to the cost of cement used (about 3s. to 4s. per bushel of cement).
Wrought iron R.W. goods:	
R.W. gutter, 4 in., per yd. 1s. 11d.	Gutter-fixed, 1s. 8d. per ft.
R.W.P., 3 in., per yd. 3s.	R.W.P. fixed, 2s. 3d. per ft.

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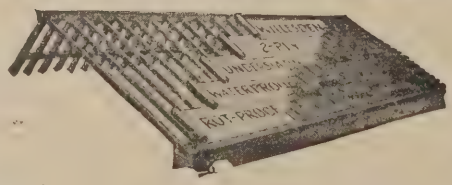

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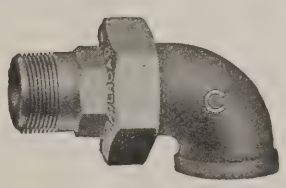

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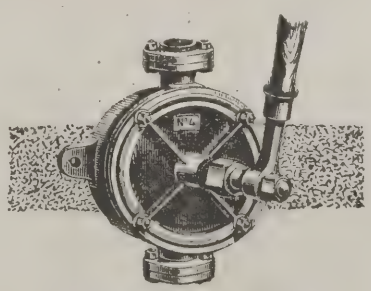

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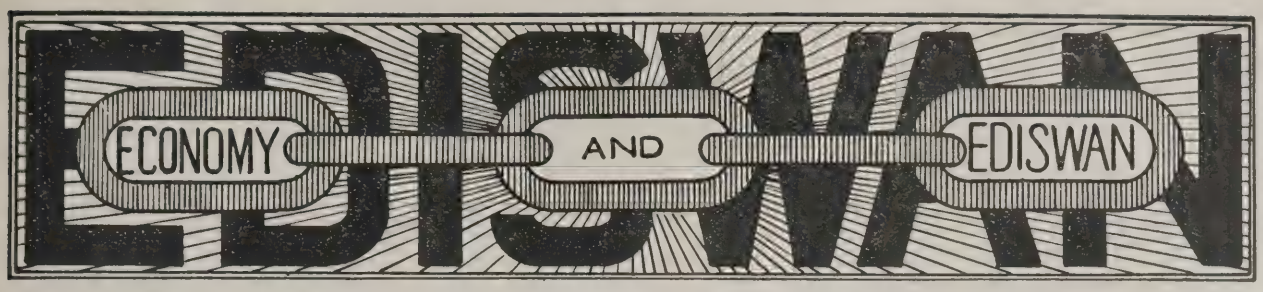

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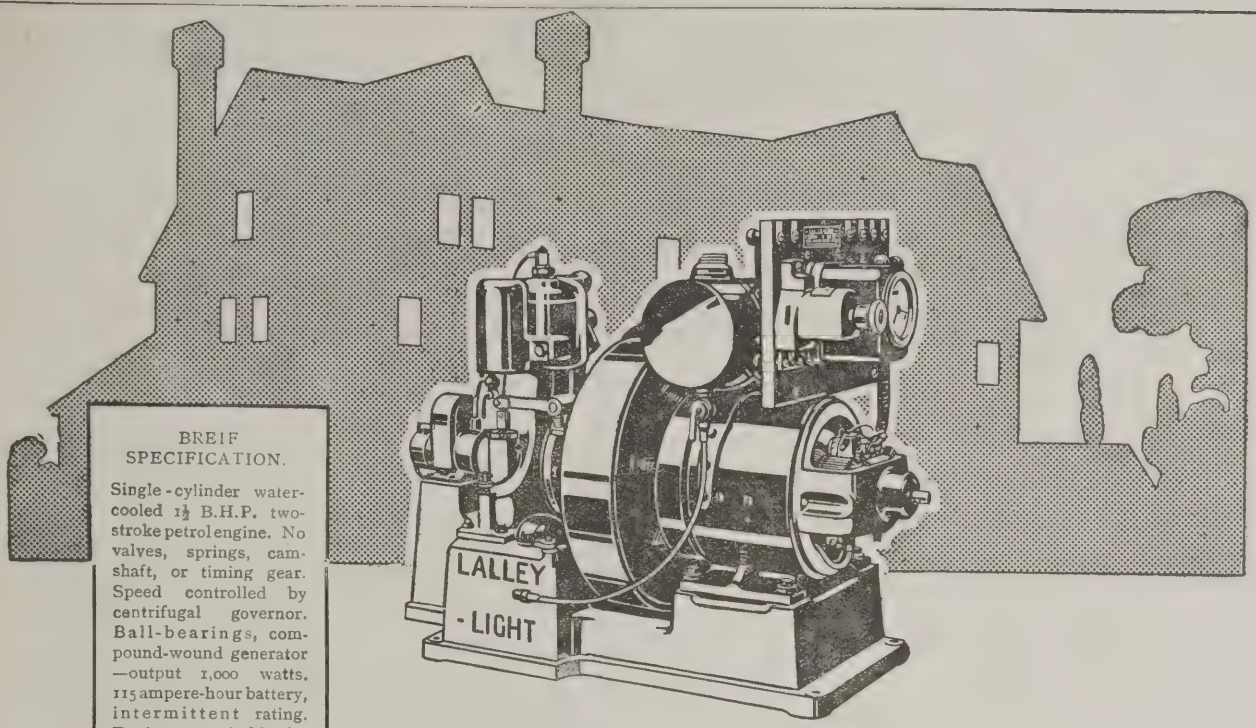

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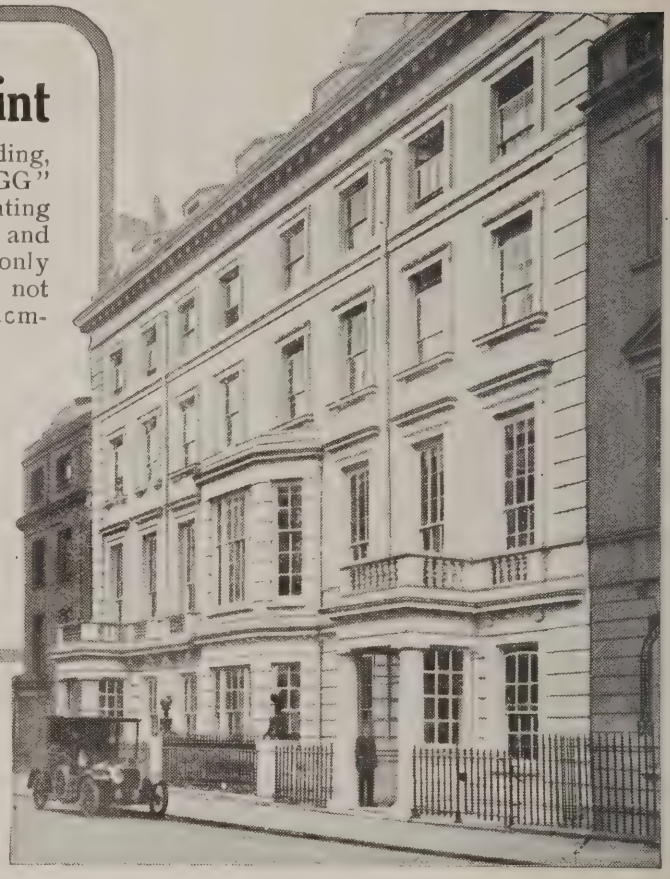

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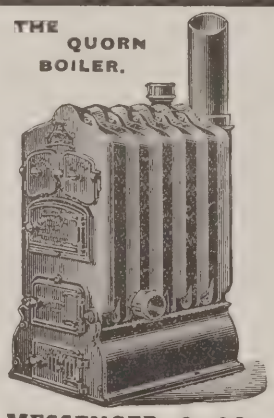

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BUILDING.

June 26-July 19.—**ALTERATIONS, ETC. West Ham.**—Alterations and additions to the Central Secondary School, Stratford, E.15, for the West Ham Education Committee. Application not later than June 26, to Mr. J. H. Jacques, Lic.R.I.B.A., Architect to the Education Committee, 2, Fen Court, Fenchurch Street, E.C.3.

June 28-July 12.—**HOUSES. Kiveton Park.**—20 houses in blocks of two and four, on a site at Harthill, for the Kiveton Park R.D.C., in accordance with drawings prepared by their Architect, Mr. H. L. Paterson, A.R.I.B.A., 19, St. James Street, Sheffield. Applications for quantities are to be made to the Architect.

June 28-July 12.—**HOUSES. Portsmouth.**—Erection of 300 houses on the Portsdown Hill site, for the Corporation. Apply to the Borough Engineer, Town Hall, Portsmouth, or at the office of the Architects, Messrs. Lanchester, Rickards and Lucas, 47, Bedford Square, London, W.C.1.

June 30.—**HOUSES. Romford.**—Erection and completion of sixty-two houses, for the U.D.C. Apply to Mr. F. G. Beaumont, C.E., M.S.A., Engineer, Architect, and Surveyor to the Council.

June 30.—**COTTAGES. Spilsby.**—Erection of cottages. Apply to the Surveyor, Mr. J. E. Bolt, Council Office, Spilsby.

June 30.—**DWELLINGS. Lyme Regis.**—Erection of ten workmen's dwellings. Apply to the Borough Surveyor, Lyme Regis.

June 30.—**POLICE HOUSE, ETC. St. Mary-in-the-Marsh, Kent.**—Erection of a police house and office. Apply to Mr. F. W. Ruck, County Architect, 86, Week Street, Maidstone.

June 30.—**HOUSES. Beeston, Notts.**—Erection of fifty-six houses, for the U.D.C. Apply to Mr. W. F. Bickford, Engineer and Surveyor, Public Offices, Beeston, Notts.

July 1.—**HOUSES. Grays, Essex.**—Erection of ninety-four houses, for the U.D.C. Application to the Council's Engineer and Surveyor, Mr. A. C. James, A.M.I.C.E., 57, High Street, Grays.

July 1.—**ALTERATIONS. Manchester.**—Alterations to gas meter testing house at London Road, for the Watch Committee. Apply to City Architect, Town Hall.

July 1.—**COTTAGES. Newhaven.**—Erection of four cottages, for the R.D.C. Information at the Office of Mr. E. H. Fuller, 19, High Street, Lewes.

July 1.—**HOUSES. Rainford, Lancs.**—Erection of 12 houses on the Bushey Lane site, and 6 houses on the Ormskirk Road site, for the U.D.C. Quantities obtained at the office of the Architects, Messrs. Biram and Fletcher, George Street, St. Helens.

July 1.—**HOUSES. Woodstock.**—Erection of eight houses to be erected on the Hensington Road housing site, for the Town Council. Particulars from the Borough Architect, Mr. H. J. White, A.M.I.C.E., P.A.S.I., 21, Staverton Road, Oxford.

July 1-17-26.—**DEPARTMENT. Derby.**—Erection of out-patient department at the Derbyshire Royal Infirmary, Derby. Applications to Mr. W. Banks, Superintendent and Secretary.

July 2.—**HOUSE. South Elmsall.**—Erection of caretaker's house, for the West Riding Education Committee. Application to the Education Architect, County Hall, Wakefield.

July 2.—**HUT. Wakefield.**—Erection and adaptation of Army hut at Stocksbridge Evening School. Application to the Acting Education Architect, County Hall, Wakefield.

July 3.—**HOUSES. Frimley.**—Erection of fifty houses. Apply to Mr. T. Fox Hill, Engineer and Surveyor, Municipal Buildings, Camberley.

July 3.—**HOUSES. Dinnington.**—Erection of 164 houses at Dinnington, near Newcastle-on-Tyne, for the Castle Ward R.D.C. Apply to the Sanitary Surveyor, Fernlea, Ponteland.

July 3.—**COTTAGES, ETC. Fraserburgh.**—Erection of 20 cottages, at Fraserburgh, for the Town Council. Apply to Mr. W. Alexander, Burgh Surveyor, Fraserburgh.

July 3.—**ALTERATION TO SUB-STATION. Sheffield.**—Erection and completion of alteration to existing transformer sub-station in Ellin Street, Sheffield, for the Electric Supply Committee of the city. Quantities at the Offices, Commercial Street, Sheffield, on payment of £1 1s.

July 3.—**RENOVATIONS. Tipton.**—Renovations to various schools under the Education Committee. Application to Messrs. Scott and Clark, Architects, Wednesbury.

July 3.—**HOUSES. Widnes.**—Erection of 500 houses. Application to Mr. H. S. Oppenheim, Town Clerk, Town Hall, Widnes.

July 5.—**OFFICES. Bristol.**—Construction of administrative offices, at Avonmouth Docks. Apply to Mr. T. A. Peace, Engineer, Avonmouth Dock.

July 5.—**MEMORIAL BUILDINGS. Aboyne.**—Erection of war memorial buildings and Victory Hall at Aboyne. Apply to Messrs. A. Marshall Mackenzie and Son, Architects, 173a, Union Street, Aberdeen.

July 5.—**COTTAGE. Shoreham and Wick.**—Erection of a police cottage at Shoreham and at Wick, near Littlehampton, for the West Sussex Standing Joint Committee. Application to the County Architect, Mr. H. P. Roberts, F.R.I.B.A., Thurloe House, Worthing.

July 5.—**ALTERATIONS. Hamilton, Scotland.**—The Commissioners of His Majesty's Works, etc., invite tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for alterations to the Post Office and Telephone Exchange at Hamilton.

July 5.—**HOUSES. Stockbridge, etc.**—Erection of cottages for the Stockbridge R.D.C. Quantities obtained at the office of the Architect, Mr. F. Henshaw, L.R.I.B.A., Lloyds Bank Chambers, Andover, on payment of £1 1s.

(*Contracts continued on page* xxiv.

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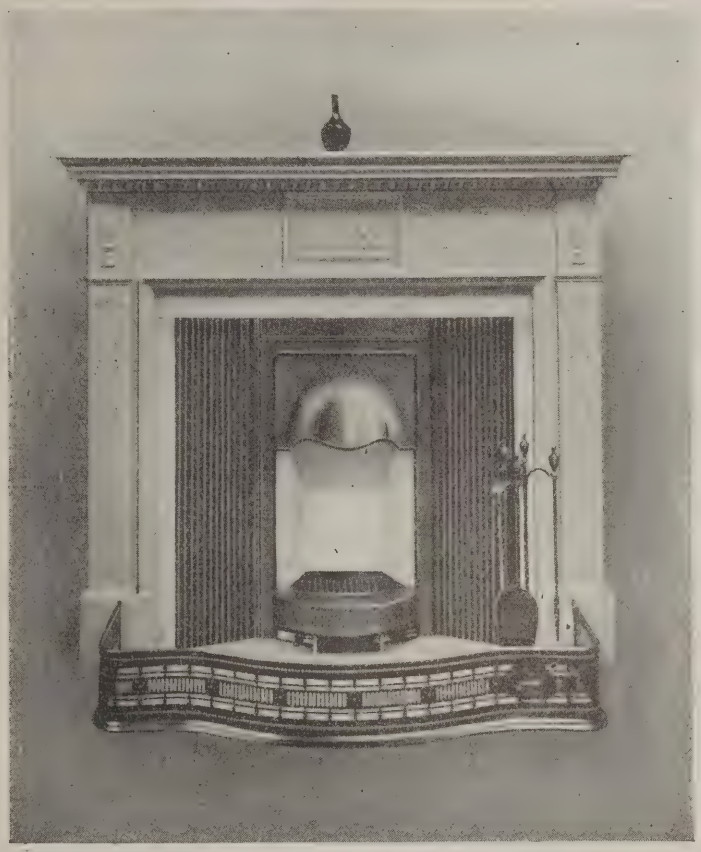

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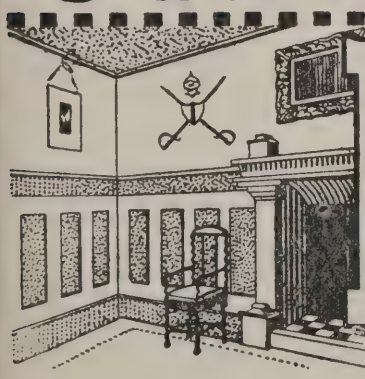

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July 5.—**FLATS. Stoke Newington.**—Erection of three blocks of flats, each containing six dwellings, for the Housing Committee. Application to the Borough Surveyor, Town Hall.

July 5.—**HOUSES. Tadcaster.**—Erection of houses on sites at Appleton, Roebuck, Sherburn, Tadcaster, and Ulleskelf. Application to the Architect, Mr. C. Castelow, A.R.I.B.A., 10, Park Row, Leeds.

July 5.—**HOUSES, ETC. Ulverston.**—Erection of 18 houses, for the Ulverston U.D.C. Application to Messrs. J. W. Grundy and Son, Central Buildings, Ulverston, and D. J. Brundit, County Square, Ulverston.

July 5.—**HOUSES. Wallington.**—Erection and completion of 52 brick houses, for the Beddington and Wallington U.D.C. Application to the Architect, Mr. S. F. R. Carter, A.M.I.C.E., Engineer and Surveyor, Council Offices, Wallington.

July 6.—**HOUSES. Mortomley.**—Erection of eight houses at Mortomley, for the Wortley R.D.C. Apply to the Architect's Office (Mr. Wynyard Dixon, Hartshead, Sheffield).

July 6.—**HOUSES. St. Helens.**—Erection and completion of 328 houses on the Windlehurst Estate, for the Borough Council. Application to the Chairman of the St. Helens Panel of Architects, Mr. F. S. Biram, 17, George Street, St. Helens.

July 6.—**STREETS, ETC. Sowerby Bridge.**—Construction of streets and sewers on the Albert Road site, for the Sowerby Bridge U.D.C. Applications for bills of quantities to Mr. J. Eastwood, Surveyor, Council Offices, Sowerby Bridge.

July 6.—**REPAIRS AND DECORATIONS. Hendon, N.W.**—Decorations and repairs to schools, for the Education Committee. Apply to Mr. J. Anderson, Secretary to the Committee, Town Hall, Hendon, N.W.4.

July 6.—**ALTERATION. Chelmsford.**—Alteration to horse run in the Market, for the Town Council. Application to Mr. P. Harrison, A.M.I.C.E., Borough Engineer, Municipal Offices, Chelmsford.

July 7.—**HOUSES. Grangemouth, Scotland.**—Erection of houses in South Marshall Street and Newhouse Road, for the Town Council. Apply to Mr. James P. Mackenzie, Town Clerk, Town Hall, Grangemouth.

July 7.—**TELEPHONE EXCHANGE EXTENSION.** Barnet.—The Commissioners of His Majesty's Works, etc., invite tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for the extension of the telephone exchange at Barnet. Application at H.M. Office of Works.

July 7.—**HOUSES. Manston, etc.**—Apply to the Architect, Mr. F. J. Cornford, M.S.A., Town Hall Buildings, Westgate-on-Sea.

July 8.—**POST OFFICE EXTENSION. Accrington.**—Extension of the post office at Accrington. Quantities from the Director of Contracts, H.M. Office of Works, London.

July 8.—**HOUSES. Bootle.**—Erection of fifty-eight houses, for the Corporation. Apply to the Borough Engineer, Town Hall, Bootle.

July 9.—**HOUSES. Adlington, Chorley.**—Erection of 30 houses on land off Chorley Road, Adlington, for the U.D.C. Information of the Architect, Mr. T. Leigh, Halliwell Street, Chorley.

July 9.—**HOUSES. Sudbury.**—Erection of 26 houses, for the Sudbury Corporation. Apply to the Borough Engineer, Town Hall, Sudbury, or at the office of the Architect, Mr. L. E. Cole, A.R.I.B.A., Rutland Chambers, Newmarket.

July 10.—**CONVERTING. Hoole, near Chester.**—Conversion of the residence known as The Elms, Hoole Road, Hoole, Chester, into new Council Chambers and Offices, for the U.D.C. Apply to the Architect and Consulting Surveyor, Mr. F. Davies, 14, Newgate Street, Chester.

July 10.—**HOUSES. Hoole, Chester.**—Erection of sixty houses, for the U.D.C. Apply to Mr. F. Davies, Architect and Consulting Surveyor, 14, Newgate Street, Chester.

July 12.—**ADAPTATION. Brighton.**—The Commissioners of His Majesty's Works, etc., Storey's Gate, Westminster, London, S.W.1, for the adaptation of the Employment Exchange at Brighton. Application at the Employment Exchange, Western Road, Brighton.

July 16.—**ENLARGEMENT. Knebworth.**—Enlargement of the County Council School, for the Hertfordshire C.C. Apply to County Surveyor's office, Hatfield.

July 19.—**EXTENSION Wigan.**—Extension to the Car Depot, Melverley Street, Wigan, for the Corporation. Application to Mr. R. B. Donald, A.M.I.C.E., Borough Engineer, King Street West, Wigan.

July 22.—**SCHOOL. Wakefield.**—The West Riding Education Committee invite whole or separate tenders for Silsden Hothfield Street Council School, New Stair, Caretaker's Store, etc. Application to the Education Architect, County Hall, Wakefield.

No Date.—**BUNGALOW. St. Merryn, Cornwall.**—Erection of bungalow at St. Merryn; must be completed on or before December 23. Apply immediately to Mr. C. W. Parkes Lees, Architect, Fowey.

No Date.—**EXTENSIONS. Banbury.**—Extensions to the Horton Infirmary. Mr. G. Gardiner, Architect, 55, High Street, Oxford, from whom quantities may be obtained.

No Date.—**COTTAGES. Buckingham.**—Erection of cottages, for the R.D.C. Apply to Mr. A. L. Snow, A.R.I.B.A., Architect to the Council.

No Date.—**ALTERATIONS. Carlisle.**—Alterations to the ground floor of the Victoria Hotel. Application to Mr. S. W. B. Jack, Architect and Surveyor, 19 Lowther Street, Carlisle.

No Date.—**WORKSHOPS. Ebute Metta, near Lagos.**—Erection and equipment of new locomotive and carriage workshops for the Nigerian Government Railways, at Ebute Metta, near Lagos, in Nigeria.

No Date.—**COTTAGES. Gaywood, Norfolk.**—Erection of three pairs of cottages on Gayton Road, Gaywood, for the Freebridge Lynn R.D.C. Apply to the Architect, Mr. L. F. Eagleton, 38, King Street, King's Lynn.

No Date.—**ALTERATIONS. Hull.**—Alterations and additions to the Ivy Emblem Institute, 115, Anlaby Road, for the National Federation of Discharged and Demobilised Sailors and Soldiers, Aplpy to Freeman, Son and Gaskill, Architects and Surveyors, Albert Chambers, 11, Carr Lane, Hull.

No Date.—**HOUSES. Ripponden, Yorks.**—Erection of 20 houses, comprising 8 blocks at Ripponden, for the Soyland U.D.C. Send names to Messrs. Walsh and Maddock, Architects, 16, Harrison Road, Halifax.

No Date.—**BUNGALOW. Brampton, Cumberland.**—Erection of a Bungalow, for Mr. R. Yielder, of Alston. Application to Mr. S. W. B. Jack, Architect and Surveyor, 19, Lowther Street, Carlisle.

No Date.—**HOUSES. Blaby, Leics.**—Erection of fifty-six houses, for the R.D.C. Particulars from the Council's Housing Architects, Messrs. Cowdell and Bryan, F. and A.R.I.B.A., 8, New Street, Leicester.

No Date.—**RENOVATIONS, ETC. New Inn, Pontypool.**—Renovations and decorations to the New Inn Congregational Church. Particulars from Messrs. Fisher and Sons, Architects, Pontypool.

No Date.—**REPAIRS, ETC. Ormskirk.**—Repairs and decoration, for the Joint Hospital Board of the Isolation Hospital. Application to Mr. C. Brighouse, Architect and Surveyor, Derby Chambers, Ormskirk.

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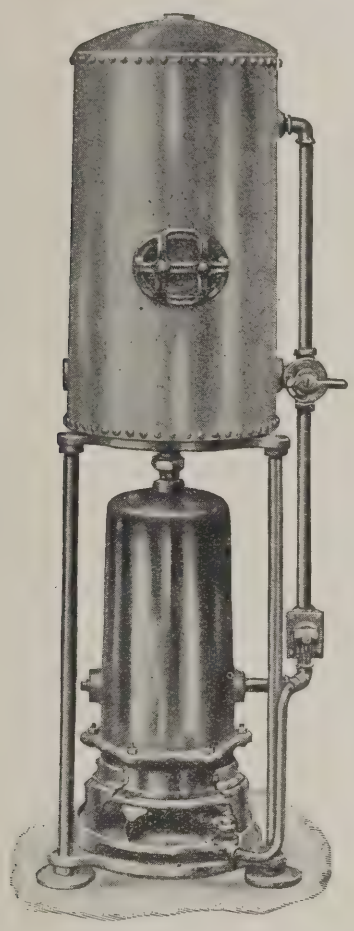

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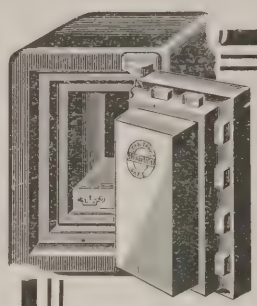

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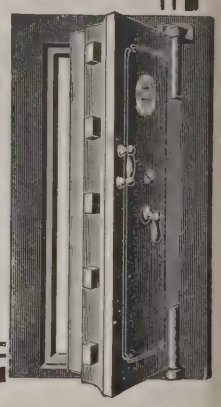

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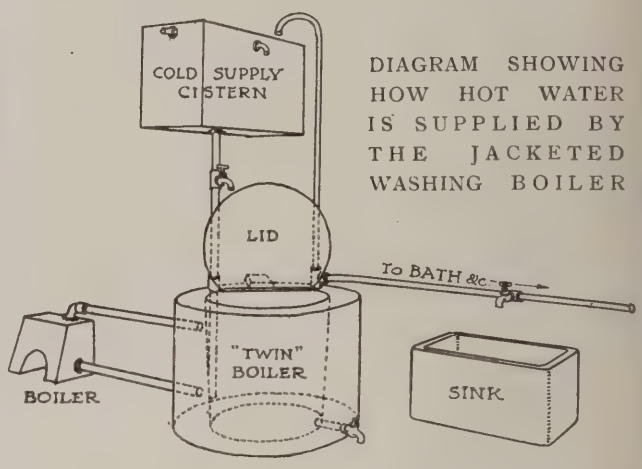

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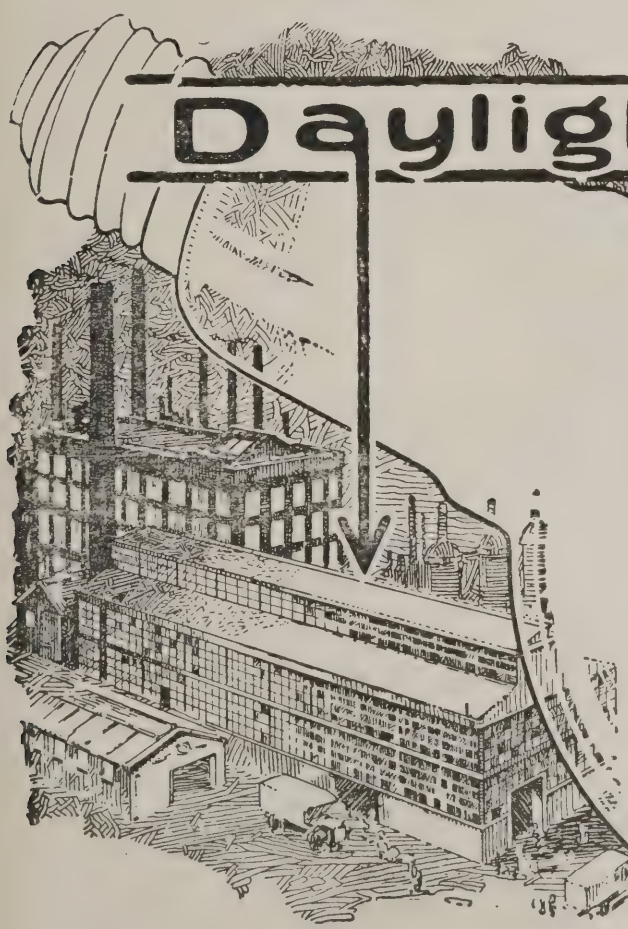

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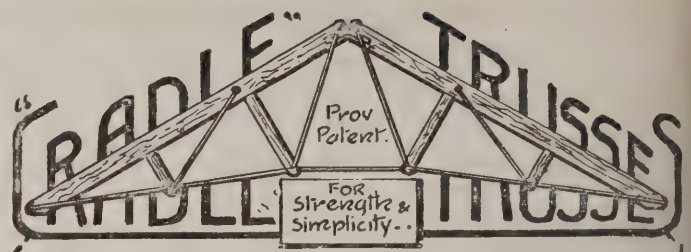

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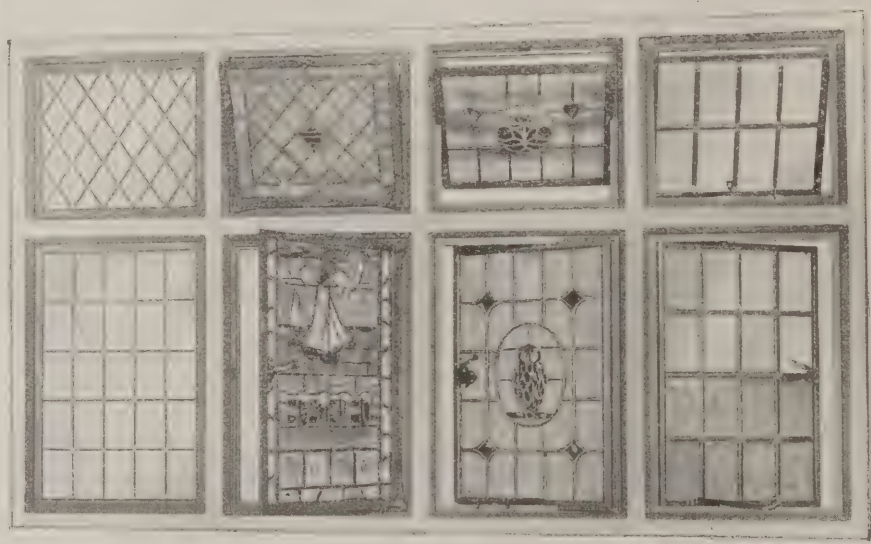

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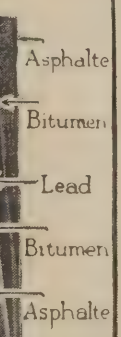

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